Technology

The Engineer

VOL. CLXXII — FROM JULY TO DECEMBER, 1941

London:

OFFICE FOR PUBLICATION AND ADVERTISEMENTS, 28, ESSEX STREET, STRAND, W.C. 2

Tech.

R v.172 July-Dec. 1941

INDEX TO VOL. CLXXII

The **Principal Headings** with their **page numbers** are as follows:—

Aeronautics, V
Air Raid Precautions, V
American Engineering News, V
Associations, Institutions and Societies, V
Boilers, VI
Bridges, VI
British Standards Institution, VI
Canals, VI
Coal, Coke and Collieries, VI
Concrete, VI
Dams, VI
Docks and Harbours, VI
Electrical Matters, VI
Engines, VII
Exhibitions, VII
Hydro-Electric Power, VII
Iron and Steel, VII
Leading Articles, VII
Letters to the Editor, VII
Literature, VIII
L.P.T.B., VIII
Machine Tools, VIII
Maps, VIII
Mines, VIII
Motor-Cars, VIII
Obituary, VIII
Pumps, VIII
Railways, VIII
Railway Locomotive Matters, IX
Roads and Highways, IX
Seven-Day Journal, X
Ships and Shipbuilding, IX
Sixty Years Ago, IX
South African Engineering Notes, X
Supplements, X
Technical Reports, X
Telegraphy and Telephony, X
THE METALLURGIST, XI
Tunnels, X
Water Supply, X
Welding, X
Wireless, X

Names

A

AERO Research, Ltd., "Aerolite" Synthetic Adhesives for Plywood Manufacture, 282
"Aerolite" Synthetic Adhesives for Plywood Manufacture, Aero Research, Ltd., 282
Ainsworth, H. M., Director-General of Tank Design, 113
Akroyd Stuart Engine, Ruston and Hornsby, Ltd., 73
Alexandretta Jetty, (246)
Alfa-Laval Co., Ltd., Dairy Machines Adapted for Cleaning, (64); Oil Transporter, 243
Allen, Edgar, and Co., Ltd., Annual Meeting, 33
Amarillo Helium Plant, (28)
American Rolling Mill Co., Giant Magnets, (462)
Ames Crosta Mills and Co., Ltd., Air-operated Pump, 141
Andamite, Ltd., Ventilation System for Air Raid Shelters, 14
Anderson, Sir Alan, Chairmanship of Railway Executive Committee, 97
Anderson, J. P., Obituary, (192)
Anglo-Iranian Oil Co., Ltd., Sir William Fraser Appointed Chairman, 1
"Ark Royal," H.M. Aircraft Carrier, Loss of, 345
Armitage, R., South Africa's Future in Industries, 442
Ashbridge, Sir Noel, The Future of Wireless (I.E.E. Presidential Address), 301
Associated Equipment Co., Ltd., Parcels Railcar for G.W.R., 14; Twin-coupled Railcars for the G.W.R., 339
Associated Soap Manufacturers, Mobile Laundries, (112)
Austin, Lord, Memorial Fund, (119)
Australian Aluminium Co., Aluminium Sheets, (48)
Azam, M. A., Paper from Water Hyacinth, (462)
Aziende Nazionale Industrie Combustible, Lubricating Oil, (64)

B

BACON, N. H., Peace Aims, 412
Bagley, D., Recovery of Natural Gas from Coal, 106
Balfour, George, Obituary, 219
Barcelona and Buenos Aires Shipping Service, (142)
Barker, W. J., Links in the History of the Locomotive, 295, 321
Barnes, M. G. K., Facts About the Rifle, 201
Barton Transport, Ltd., Producer Gas Vehicles, (80)
Belgian Congo Information Bureau, (192)
Bell Telephone Co., Telephone Exhibit in Chicago Museum, (96)
Benkert, M., Atomic Induction, 42
Beveridge, Sir W., Interim Report on Skilled Men in the Services, 143
Bevin, Ernest, Personnel and War Production, 226; (Leading Article, 236)
Beyer-Garratt Locomotive Experience, E. H. Livesay, 210; (Letters, 275)
Birkenhead Bridge, Port Adelaide, (96)
Birmid Industries, Ltd., Annual Meeting, 445
Bishopp, E., Peace Aims, 396
Blaw-Knox, Ltd., Portable Concrete Mixer, 87
Boer, F. H., Universities and Industrial Research, 239
Bolton, L. W., Deflection of Cast Iron at High Temperatures, 172
Bottomley, W. T., The Design of Condensing Plant and Cooling Water Systems, 13
Bowden, F. P., and D. Tabor, The Contact of Colliding Surfaces, 380
Brady, H. W., Links in the History of the Locomotive, 275
Bramah's Lead Pipe Machine, 188
"Bristol" Aircraft Gun Turrets, 357
Bristol "Beaufighter," 92
Bristol "Hercules" Aero-engine, 399
British Coal Utilisation Research Association, Annual Meeting, 425
British Oxygen Co., Ltd., Repair of Cast Iron Low-pressure Evaporator, 38
British Plastics Federation, Ltd., British Plastics in Time of War, 385
British Thomson-Houston Co., Ltd., Battery Locomotive for Industrial Haulage, 119
British Timken, Ltd., Twenty-first Anniversary, (404); Hydraulic Press for Mounting and Removing Axle-boxes, 340
Brown, Andrew, Obituary, 237
Brown, John, and Co., Ltd., Annual Meeting, 1
Brown, W. G., Facts About the Rifle, 338
Bruce, A. K., William Gilbert, the First Electrician, 336
Brush Electrical Engineering Co., Ltd., Apprentice Training Scheme, (48)
Budenberg, C. F., Obituary, 351
Builders Ironfoundry, Machine Tools for Production of Small Arms, 379
Bullcroft Main Colliery, Doncaster, Explosion, (264)
Burma and China Railway, (63), (96)
Burntisland Shipbuilding Co., Ltd., Motor Cargo Ship, 340

C

CANADIAN General Electric Co., Ltd., Mammoth Searchlight, (208)
Canadian Industries, Ltd., Zinc Chloride for Preservation of Hangar Timber, (80)
Canadian National Railways, Earnings, (176), (264); Salvage Campaign, (142)
Canadian Pacific Railways, Four-coupled Engines on Secondary Services, E. H. Livesay, 50
Cape Town Docks, 23
Cape Town Electricity Undertaking, 341
Cape Town Harbour, (444)
"Captain," H.M.S. (Historic Accidents), 66, 82
Carlton Tunnel, Colorado, Completion, (192)
Carty, C., The Poincarés, 9; Locomotive Wheel Notation, 396
Chamberlain, Arthur, Obituary, (112)
Chapman, E. E., Steam *versus* Diesel-electric Locomotives, 101
Chicago Underground Railways, 268, 288, 317
Christie, A. G., Aims and Scope of the Mechanical Engineering Curricula, 155; (Leading Article, 150); (Letter, 171)
Christie, S. P., Prime Mover Development After the War, 26; Contra-propellers, 106; Self-phasing of the Garratt Locomotive, 337; Compound Locomotives, 376
"Churchill" Infantry Tank, 49
"City of Midland," Train and Motor-car Ferry, 93
Clark, E. Kitson, The World We Hope to Live in, 2, (55); (Leading Article, 8); (Letters, 27, 43, 57, 73, 169, 185, 201, 220, 355, 375, 396, 411, 435)
Clark, George (1938), Ltd., Propelling Machinery for Standard Cargo Vessels, 195
Cliff, J. S., Estimation of the Restriking Voltage Characteristics of Supply Networks, 75
Clogher Valley Railway, Northern Ireland, Closing, (183), (192)
Clowes, Colonel George, Obituary, (119)
Cockshutt Four-furrow Plough, R. A. Lister and Co., Ltd., 460
Cohen, George, Ltd., Purchase of Welsh Highland Railway, (64), 81
Colam, Sir H., and J. D. Watson, Hammer Blow in Locomotives, 425, 457; (Leading Article, 454)
Collett, C. B., Retirement from Great Western Railway, 17
Commonwealth Edison Co., Radio Patrol Cars for Electricity System, (126)
Consolidated Mining and Smelting Co., Tin Production, (462)
Consolidated Pneumatic Tool Co., Ltd., Universal "Midget" Electric Drilling Machines, 31
Continental Divide Tunnel, U.S.A., 456
Cook, Thomas, Ltd., Centenary, (48)
Cooper, H. L., Visual Experimentation with Centrifugal Pumps, 278; (Leading Article, 274); (Letters, 395)
Costa Rica Railway Co., Ltd., Amalgamation with Northern Railway Co., (80)
Cox, C. H., Obituary, (112)
Cox, E. S., Balancing of Locomotive Reciprocating Parts, 425, 457; (Leading Article, 454)
Crawford, W. R., Approximate Mechanics of Falling Bodies, 430
Crew, E. W., Calculating Machines, 438
Cridge, R. H., Obituary, (32)
Crompton Parkinson, Ltd., Modern Cubicle Switchgear, 182
Crowe, Sir E., Co-operation for Production (Machine Tools and the War), 342
Crump, W. B., and F. Williamson, Sorocold's Waterworks at Leeds, 1694, 352, 372

D

DALE, Sir Henry, Science and Government, 391
Damodar Storage Dam, India, (462)
Danish State Railways, Train Ferry "Staarebelt," (142)
Darley, Sir B., Irrigation in India, 360
David, W. T., The Measurement of Flame Gas Temperatures, 186
Davies, C. E., "What's Past is Prologue" (Newcomen Society, Presidential Address), 400
Deacon, Maurice, Obituary, (228)
Desch, C. H., Natural Resources, 238
Dewhurst, P. C., A Council of Engineers, 89; Early British Locomotives, 219
Diamond Alkali Corporation, Magnesium Production, (462)
Dick's Presses, 190
Dixon Corbitt, Ltd., Wire Ropes and Cordage, 401
Dnieper Dam and Power Station, 147
Douglas "B.19" Bomber, 1
Downs, James, Obituary, (324)
Doxford, William, and Sons, Ltd., J. R. Gebbie's Appointment, 285
Dufton, A. F., Early Application of Engineering to the Warming of Buildings, 4
Du Pont Nemours, E. I., and Co., Explosive Rivets, (176); Extensions, (316)

E

EATON'S Cable Sheathing Press, 190
"Edgwick" Die Casting Machine for Aluminium, Brass and Magnesium, A. Herbert, Ltd., 103
Edison Swan Electric Co., Ltd., The Care of Batteries, (371)
Electrical Times, 2000th Number, 353
Electroflo Meters Co., Ltd., Steam Pressure Regulator, 213
Elphinstone, Sir Keith, Obituary, (32), 41
ENGINEER, THE, Change of Size, 218
"Ericus," Continuous Working in War Factories, 146
Essen, R.A.F. Targets in Germany, 416
Evans, J. T., Peace Aims, 411
Everitt, C. K., Industry and Taxation, 33
Extruded Plastics, Inc., Extruded Plastic Shapes, (444)

F

FALUN, Swedish Copper Mining Town, Three-hundredth Anniversary, (444)
Farmer Norton, Sir James, and Co., Ltd., Centreless Bar Turning and Straightening Machines, 261
Federation of British Industries, Grand Council Meeting, 247
Fenchurch Street Station Centenary, 89
Fontana Hydro-electric Project, North Carolina, (126)
Ford, Henry, Plastic Motor-car, (192)
Ford Motor Co., Plant for Consolidated B-24 Liberators, (64); Welded Pipe Piles at Dearborn Factory, (192); New Aero-engine Works, 353
Ford Motor Co. of Canada, Ltd., New Foundry, (462)
Fortuna Power Stations, 117
Forward, E. A., Links in the History of the Locomotive (Early Stephenson Locomotives), 230, 248; (Letters, 275, 295, 321)
Fraser, Sir William, Chairman, Anglo-Iranian Oil Co., Ltd., 1
Friant Dam, California, Gold from Excavation, (246), (444)

G

GARRARD, C. J. O., Coming Crisis in Electrical Power Transmission, 10
Garratt Locomotive, Self-phasing of the, S. P. Christie, 337
Gebbie, J. R., Managing Director, William Doxford and Sons, Ltd., 285
General Electric Co., Ltd., C. C. Paterson Elected a Director, 445
General Electric Co. of America, Electric Thickness Gauge, (165); Bequest from an Employee, (341); Plants for Ship Propulsion Equipment Manufacture, (424)
Geneva Railway Junction Scheme, (228)
"Georgic," Cunard White Star Liner, Damage to, (112)
Gilbert, William, The First Electrician, A. K. Bruce, 336
Glen Affric Power Scheme, 8, 17, 177
Glendenning, Ian, Facts About the Rifle, 152
Golden Gate Bridge, (64)
Goldenberg Power Station, 118
Grand Coulee Dam, Working Model of, (246)
Gray Memorial Trust, (48)
Great Western Railway, Centenary, 1; Parcels Railcar, 14; Slough Accident, (16), 305; C. B. Collett's Retirement, 17; Appointments, (32), (264), (457); Mobile Canteens, (284); Twin-coupled Railcars, Associated Equipment Co., Ltd., 339; Decontamination Coaches, (444)
Gregory, Sir Richard, Opening Address, Conference on Science and World Order, 216
Griffin and Tatlock, Ltd., Electro-chemical Analysis Apparatus, 190
"Grimsby," H.M. Sloop, Loss of, (16)
Gulick, L., Tennessee Valley Development Scheme, 216
"Gustaf Klint," Swedish Marine Survey Vessel, 95
Guy, H. L., Appointed Secretary, I. Mech. E., 285

H

HALCROW, W. T., A Century of Tunnelling (Hawksley Lecture), 368, 389, 409
"Halifax" Four-engined Bomber, 177
Hall, A. H., Retirement from Royal Aircraft Establishment, Farnborough, 28
Hammond, R., Concrete Ships, 35; Some Notes on Tunnelling Practice, 83; The Channel Tunnel, 187
Hamon Press, 188
Harrison, J., A Tale of the Sea, 199
Harrison, R. E. W., To-day's Machine Tools, Machinery, and Mechanised War, 259
Harriss, R. H., Presidential Address, South African Institution of Engineers, 174
Hartley, Sir Harold, World Heat and Power Requirements, 217, 239
Haswell, R., Obituary, (192)

Figures in Brackets ( ) refer to paragraphs

Hawksley Lecture, A Century of Tunnelling, W. T. Halcrow, 368, 389, 409
Hawksworth, F. W., Appointed C.M.E., Great Western Railway, 17
Heap, A. C., Obituary, 293
Hecht, J. S., A Rising Coal Output, 105
Hedrick, J. E., Colloidal Fuel, 361
Hemsley, S. H., Reactance of Transformers with Sandwich Type Windings, 52
Herbert, Alfred, Ltd., Die Casting Machine for Aluminium, Brass, and Magnesium, 103; High-production Centre Lathe, 156; 2D Motor-driven Capstan Lathe, 322, (364); Machine Tools for Production of Small Arms, 379
Higgs Motors, Ltd., Large Motors and Alternators, 59
Hill, A. V., The Use and Misuse of Science in Government, 222; (Leading Article, 236)
Hjelm, S., Acetylene Gas for Transport ("Karbil" System), (344)
Holcroft, H., Smoke Deflectors for Locomotives, 198
Holmes Chapel Collision, L.M.S. Railway, 177
Holt, Sir Herbert, the Late, 209
Holzverzuckerung, A.G., Alcohol from Wood Waste, (244)
Hong Kong and Whampoa Dock Co., Ltd., Shipbuilding, (304)
Hoogenhout, P. I., South African Roads Five-year Plan, 23
Hopkinsons, Ltd., Pressure Gauge with Bakelite Case, 207
Howard, F. E., Obituary, 335
Huber Cable Press, 189
Hume-Rothery, W., The Structure of Alloys, 441
Humphreys, C. L. Howard, Obituary, 57
Hutton, W. R., Obituary, (158)

I

INDIAN Hume Pipe Co., Ltd., Spun Bleaching Kier, (264)
Ingalls Shipbuilding and Drydock Co., "C 3" Merchant Ships, (192)
Inglis, C. E., The Education of Engineers (Inst. C.E. Presidential Address), 319, 327; (Leading Article, 334)
International Nickel Co., Plant Extension, (96)
Irish Shipping, Ltd., American Cargo Vessels for Eire, (228)
"Isie," South African Passenger Ship, 110

J

JAIPUR State Railway, Annual Report, (176)
Jeffrey, C. S., Tay Bridge Disaster, 436
Johannesburg Post-war Schemes, 442
Johnson, C. L., The Design of High-speed Military Airplanes, 392, 420, 432
Jones, Captain O. P., Atlantic Air Record with "Liberator," 385

K

KARACHI Water Supply, (264)
"Karbil" System of Acetylene Gas for Transport, (344)
Karlsruhe, R.A.F. Targets in Germany, 326
Kiev Suspension Bridge, 338
Kilburn Scott, E., Obituary, 41
Kincaid, John G., and Co., Ltd., 6000 S.H.P. Marine Oil Engine, 358
"King George V," H.M. Battleship, 122
"King Haakon VII," Norwegian Merchant Ship, 445
King, Major-General C. J. S., Engineer-in-Chief, War Office, 229
Kirby, W., The Combustion of Tar and its Products, 122
Klinge, E. R., and P. H. Schweitzer, Oxygen-boosting of Diesel Engines for Take-off, 90
Krupp, A.G., Works, Essen, 416
Krupp-Gruson Works, Magdeburg, 438

L

LANDSBOROUGH Findlay (S.A.) Pty., Ltd., Oil Engine Driven Locomotives, (404)
La Tuque Hydro-electric Development, Canada, 3, 20
Lee, W. A., Rising Coal Output, 171
Lemm, W., Lemmite as a Steel Hardener, (140)
Lessels, J. M., Louis E. Levy Medal Award, 1
Lister, R. A., and Co., Ltd., Cockshutt Four-furrow Plough, 460
Livesay, E. H., Beyer-Garratt Locomotive Experience, 210; (Letter, 275); Canadian Locomotive Experiences, No. VII, Four-coupled Engines on Secondary Services, C.P.R., 50; No. VIII, "The Chinook," C.P.R., 346; No. IX, Montreal to Ottawa Express, C.P.R., 366; No. X, Montreal and Toronto "Pool" Services, 386; Locomotive Wheel Notation, 356; Tandem Rods on Locomotives, 412
Lloyd, S. C., Obituary, (373)
Lloyd's Register of Shipping, American Committee, 33
London Area Clearing Centres, 81
London and Brighton Railway, Centenary, 193
London Midland and Scottish Railway, Salvage, (6); Women Workers, (32); Fenchurch Street Station Centenary, 89; Appointments, (126), (264); Holmes Chapel Collision, 177; Troop Trains, (208); Road Activities, 224; 40-Ton Electro-magnet, 341; Trains for Factory Workers, (344); Reduction in Thickness of Tickets, (404); Paper Salvage, (444)
London and North-Eastern Railway, Leman Street and Shadwell Stations Closed, (16); Train Fire Report, 28; Appointments, (32), 97; Medal for Employees, (48); W. Y. Sandeman's Appointment, 97; Electrical Engineer's Department, (119); Blizzard Damage, 176; Manchester and Altrincham Electric Trains, (228); Electric Locomotive Tests, 229, 332; 2–8–0 Freight Locomotives for Overseas Service, 402; Utilising Water Softening Sludge, (462)
London Passenger Transport Board, Winter Plans, 209; Two Cars Made Into One, (293)
Lorraine Bridge, Berne, (384)
Lyman, A. K. B., Compaction of Cohesionless Foundation Soil by Explosives, 45
Lysaght, S. R., Obituary, (142)

M

MACDONALD, Symington, Making Greater Use of Invention, 135
MacGregor, C. W., Louis E. Levy Medal Award, 1
Magdeburg, R.A.F. Targets in Germany, 437
Malaya, C. A. Middleton Smith, 426, 446
Manitowoc Shipbuilding Co., Train and Motor-car Ferry "City of Midland," 93
Mansergh, W. L., Obituary, (176)
Marks, S., Machine Tool Capacity Clearing Houses, 221
Marriner, W. W., Obituary, 316
Marshall, C. F. Dendy, Monkland and Kirkintilloch Railway, 137; Links in the History of the Locomotive, 295
Mason, K. W., A Blind Engineer's Achievement, (329)
Matton, I. T., Loss of H.M.S. "Hood," 257
McCann, G. D., Motor-cars and Lightning, 125
McDonald, G. G., Professorship at Sydney University, 305
McKay, H. V., Massey-Harris Proprietary, Ltd., "Sunshine" Auto-Header Combine Harvester, 206
McLeod, R. C., Light-weight Steam Plant, 121
Melchett Medal Award to C. A. Seyler, (96)
Melsom, S. W., Plastics for Cable Making, (393)
Metadier, J., International Research, 238
Metropolitan-Vickers Electrical Co., Ltd., J. S. Peck's Retirement, 49
"Midget" Electric Drilling Machines, Consolidated Pneumatic Tool Co., Ltd., 31
Mills, R., Foundries After the War, 39
Milne, J. A., Managing Director, J. Samuel White and Co., Ltd., 285
Minikin, R. R., Pile Driving in Clay, 10; Government, Industry, and Labour, 42; Foundations, 428, 448
Mississippi River Bridge, (80)
Missouri Pacific Lines, New Streamlined Trains, (192)
Mitchell, Brigadier-General C. H., Obituary, 143
Mobile Dry Dock, Alabama, (16)
Monkland and Kirkintilloch Railway, 118, 137
Monkswell, Lord, The Future of British Railways, 247
Monsanto Chemical Co., New Plastic Process (80)
Montana Power Co., Air Patrol of Transmission Line, (176)
Montaup Electric Co., Large Forced Circulation Boiler, 133
Moore Dry Dock Co., American Cargo "C 2" Ships, (32)
Moore-Brabazon, J. T., Aircraft Production, 54
Moscow Railway Facilities, (96)
Mott, Hay and Anderson, Proposed Tyne Tunnel, 97
Mower, G. A., Obituary, 392

N

NATCHEZ-VIDALIA Bridge on the Mississippi River, 100, 114
National Chemical Products, Ltd., Glycerine Production, (96)
Neild, G. A., Peace Aims, 435
Niagara Falls Power Co., Original Generators in Service, (384)
Nicholl, J. S., Road Transport, 258; (Leading Article, 274)
Nitrate Railways Co., Ltd., Taken Over by Chilean Government, (208)
Northampton Polytechnic, Programme for New Session, (208)
Northern Aluminium Co., Ltd., Aluminium Technology, (460); Heat Treatment of Aluminium and its Alloys, 94
Norton, R. J., Retirement from Petters, Ltd., 209
Nuttall, Sir E. K., Obituary, (158)

O

OERLIKON Company and Germany, 257
Ohlsson, A., "Parca" Gas Generator, (7)
Ormerod Shapers, Ltd., Radial Shaping Machine, 300

P

PACINOTTI, Antonio, Centenary, 119
Pan-American Airways, Inc., Transatlantic Air Services, (228)
Panama Canal Traffic, (158)
Panama Canal Tunnel, (364)
"Parca" Gas Generator, A. Ohlsson, (7)
Parker, A., Treatment of Sewage and Trade Effluents, 422
Parker, E. B., Beyer-Garratt Locomotives, 275
Paterson, C. C., Elected Director, General Electric Co., Ltd., 445
Patterson, George, Obituary, (176)
Pearson, C. E., The History of the Hydraulic Extrusion Process, 188
Peck, J. S., Retirement from Metropolitan-Vickers Electrical Co., Ltd., 49
Penfield, W., Research, 238
Petters, Ltd., R. J. Norton's Retirement, 209
Pick, Frank, Obituary, 325
Pitter, Walter C., Obituary, 237
Plastic Spray, Ltd., Metal-coated Plastics, 125
Pohl, R., Heating of Turbo-alternator Rotors due to Rectifier Load, 204
Pooley, Robert, Obituary, (16)
Port Credit Waterworks, Ontario, (16)
Port Elizabeth, South Africa, Power Plant, 442
Port Elizabeth, South Africa, Water Problem, 149, 342
Portal, Lord, Salvage Drive Broadcast Appeal, 445
Portland and Montreal Pipe Line, (142), (192), (462)
Potts, F. J., Shortage of Engineers, 73
Poultney, E. C., The Development of the Steam Locomotive, 320
Pratt and Whitney Co., Plastic Grips for Gauges, (246)
Price, O. A., Visual Experimentation with Centrifugal Pumps, 396
Pringle, P., Ball and Roller Bearings, 29
Pritchard, P., Handicaps to Industrial Progress, 445
Prout, Frank, Obituary, 41
Pusey and Jones Corporation, American Cargo Ships, (158)

Q

QUEBEC Bridge, The First (Historic Accidents), 267, 286, 306
Quebec Bridge, The Second (Historic Accidents), 406

R

RADLEY, W. G., Telecommunications of the Future, 300
Rainbow Bridge, Niagara Falls, 259, 349, 377
Rainford, H., Flameproof Enclosure of Electrical Apparatus, 312
Ranney, L., The Recovery of Natural Gas from Coal, 78; (Letter, 106)
Rapid Magnetting Co., Ltd., Magnetic Percolator, 451
Reed, Brian, The Railway Oil Engine, 154
Reid, G. Ure, Visual Experimentation with Centrifugal Pumps, 395
Reith, Lord, Post-war Reconstruction, 79
Research Enterprises, Ltd., Optical Glass Manufacture, (142)
Rheinisch-Westfalisches Elektricitatswerk, A.G., R.A.F. Targets, 117
Riley, D. P., Younger Scientists, 238
Rissik, H., The Coming Crisis in Electrical Power Transmission, 27; Probability Theory and Mental Capacity, 170; Probability Graph Paper and its Engineering Applications, 276, 296
Ritter, E. A., Plant for Wattle Wood Pulp, (382)
"Robin Locksley," American Robin Line Cargo Ship, (112)
Robinson, I. V., Peace Aims, 169, 355, 375
Rodgers, J. D., Steel *v.* Copper Fire-boxes, 43
Roebling Centenary, (364)
Rothensee Ship Lift, Magdeburg, 438
Ruston and Hornsby, Ltd., The Akroyd Stuart Engine, 73

S

ST. CLAIR River Tunnel, Ontario, Jubilee, (344)
Salford Electrical Instruments, Ltd., A.C. Instrument Test Panel, 119
Samuel, Lord, Science in War, 216
San Felipe Buttress Dam, Argentina, 233
San Francisco Union Square Underground Garage, (142)
Sandberg, C. P., Obituary, 9; (Letter, 26)
Sandeman, W. Y., L.N.E.R. Appointment, 97
Sayers, W. H., Peace Aims, 201
Schweitzer, P. H., and E. R. Klinge, Oxygen-boosting of Diesel Engines for Take-off, 90
"Sea Otter," American Cargo Ship, 193
Seyler, C. A., Melchett Medal Award, (96)
Shanghai Worsted Mills, Ltd., Wool-combing Machinery, (462)
Shasta Dam, California, Long Conveyor Belt, (141)
Shaw, Engineer-Captain J. F., Obituary, 105
Sheppard, A., Peace Aims, 221, 396
Shipbuilding Employers' Federation, Annual Meeting, 365
Shorter Process Co., Ltd., Flame Hardening Machines, 6
Silvester, C. J., Obituary, (304)
Sioux Narrows Bridge, Ontario, Connectors, (342)
Slough Accident, Great Western Railway, (16), 305
Smith, C. A. Middleton, Industries of the Far East, 98; The Engineer in Malaya, 426, 446
Smith, D. Hastie, Training of Marine Engineers, 241
Snell, S., Monkland and Kirkintilloch Railway, 118
Society of British Aircraft Constructors, Annual Meeting, 365; Scholarships, (404)
Soddy, F., The World We Hope to Live In, 73
Somervell, R. B., Construction Work for the United States Army, 397
Sorocold's Waterworks at Leeds, 1694, F. Williamson and W. B. Crump, 352, 372
South African Electricity Supply Commission, 281
South African Iron and Steel Industrial Corporation, Extensions, 23; Coke-making Plant, 110; Tool Steels, 442
South Portland Shipyard, Maine, 71
Southend Tramways Replaced by Trolley-buses, (228)
Southern Railway, Locomotive "Union Castle," 17; London-Brighton Line Centenary, 193; "Channel Packet" Locomotive Trial Run, 337
Stanelco Products, Electrode Soldering Equipment, 30
Stanier, W. A., The Locomotive in Mechanical Engineering (I. Mech. E. Presidential Address), 290, 309, 328; (Leading Article, 315)
Steel, J. M., and Co., Ltd., "Aerolite" Synthetic Adhesives for Plywood Manufacture, 282
Stephenson Locomotive Society, Annual Meeting, (462)
Stettin, Port of (R.A.F. Targets), 251
Stevens, P. H., Obituary, (48)
Stewart, F. C., The Compass and Other Aids to Navigation, 298
Stock, A. R., Institution Libraries, 89
Stockton and Darlington Railway, Early Stephenson Locomotives, E. A. Forward, 230, 248; (Letters, 275, 295, 321)
Stoker, W. R., Technical Education in the U.S.S.R., 330; (Leading Article, 334)
Stonehaven, Lord, Obituary, 127
Straker, Ernest, Obituary, 9
Sturrock, F. C., Work in South Africa After the War, 342
"Sydney," H.M. Australian Cruiser, Loss of, 385

T

TABLE BAY Dry Dock, 149
Table Bay Harbour, 174, 243, (264), 442
Tabor, D., and F. P. Bowden, The Contact of Colliding Surfaces, 380
Tacoma Bridge, Failure of, Report on, 128, 145, 162, 180, 202; Plans for New Bridge, (142); Insurance Suit, (344)
Tay Bridge Disaster, 18, 34; (Leading Article, 24); (Letter, 436)
Taylor, D. W., Model Basin, U.S. Navy, (142)
Tennessee Valley Development Scheme, L. Gulick, 216
Thomas, Richard, and Co., Ltd., Annual Meeting, 127
Thompson, Joseph L., and Sons, Ltd., Standard Cargo Vessels, 195
"Thunderer," H.M.S. (Historic Accidents), 160, 178
Titley, A., The Beginnings of the Newcomen Society, 338
Todd-Bath Iron Shipbuilding Corporation, South Portland Shipyard, 71
Todd-California Shipbuilding Corporation, Richmond Shipyard, 58
Todd-Galveston Dry Docks, Inc., New Dry Dock at Mobile, Alabama, (16)
Todd Shipyards Corporation, Twenty-fifth Anniversary, (80)
Trans-Tasman Air Services, 158
Trent Catchment Board, 97
Troup, J. D., A New World, 27; Engineers, the Institutions, and the Government, 171
Tuke, J. E., The World We Hope to Live In, 43
Turnbull, C., Self-phasing of the Garratt Locomotive, 321
Tuson, K. H., Supply of Technical Equipment to the Army, 67
Tyne Tunnel, Proposed, 97

U

UNITED STATES Rubber Co., Rubber for Aluminium, (413)

V

VAAL Generating Station Undertaking, 342
"Valentine" Infantry Tank, 28
Vallecito Dam, Colorado, Completion, (364)
Vancouver Dry Dock, (16)
van der Horst, H., Chromium Plating of Cylinders, 123
Vauxhall Motors, Ltd., Producer Gas Vehicles, (64)
Vickery, J. F., Locomotive Wheel Notation, 396
Victorian Government Railways, New 4–8–4 Locomotives, (96)
Vivian, A. C., A Request for Fatigue Information, 356
Volterra, E., Elastic Dislocations, 238
Vowles, H. P., Peace Aims, 220; Water Power Resources, 238

W

WALL, A. T., Obituary, 185
Wall, T. F., Magnetic Penetration, 166
Walton, H. R., An Interesting Application of Boiler Control, 213
Ward, Joseph, Obituary, 28
Watson, Sir D. Milne, Proposed Ministry of Fuel, 302; (Leading Article, 294)
Watson, F. L., Peace Aims, 412
Watson, J. D., and Sir H. Colam, Hammer Blow in Locomotives, 425, 457; (Leading Article, 454)
Watt, M. J., The World We Hope to Live In, 73; Peace Aims, 201
Weems, J. and W., Press, 188
Weir, D., Facts About the Rifle, (71), 153
Welland River Bridge, Canada, (304)
Wellit Insulation, (80)
Welsh Highland Railway, Purchased by George Cohen, Ltd., (64), 81
Westinghouse Electric and Manufacturing Co., Turbine Order for Hawaii, (16); Turbine-building Plant, (176)
Weston, W. N., Obituary, (344)
White, Herbert, Obituary, (284)
White, J. Samuel, and Co., Ltd., J. A. Milne's Appointment, 285
Widnes Foundry and Engineering Co., Ltd., Centenary, (384)
Wild Barfield Electric Co., Ltd., Determining the Case Depth of Carburised Work, 87
Wilkinson, A. J., and Co., Early Micrometer, (246)
Williamson, F., and W. B. Crump, Sorocold's Waterworks at Leeds, 1694, 352, 372
Willox, W. A., The World We Hope to Live In, 119
Witter Process of Shell Production, 109
Woodeson, W. A., Twenty-five Years of Marine Progress, 270
Woods, R. C., X-raying Circumferential Seams, 22
Wright Aeronautical Corporation, New One-storey Building, (126), (264); Redistributing Machine Tools, (208)

Y

YAMATO Mercury Mining Co., Search for Mercury, (16)

Subjects

A

ABRASIVES, Artificial, and Nitrogen in the United States, 62
Accidents and Disasters, Historic, Nos. I and II, The Tay Bridge, 18, 34 (Leading Article, 24); Nos. III and IV, H.M.S. "Captain," 66, 82; Nos. V and VI, H.M.S. "Thunderer," 160, 178; Nos. VII, VIII, and IX, The First Quebec Bridge, 267, 286, 306; No. X, The Second Quebec Bridge, 406
Acetic Acid Production in India, (126)
Acetylene Gas for Transport ("Karbil"), (344)
Acoustic Mine, 177
"Aerolite" Synthetic Adhesive for Plywood Manufacture, Aero Research, Ltd., 282

AERONAUTICS:

Air and Sea, 40
Air War, A Month's, 265
Air Warfare, Two Years of, 200
Aircraft Output, Record, 143
Aircraft Production, Lieut.-Colonel Moore-Brabazon, 54
Aircraft Production, Regional Emergency Services, Officers for, 229
Airgraph Service to Aden and Iran, (246)
Airyx, 43
Aluminium for Aircraft, (80,) (126)
American Aircraft Production, (64), (192), 335
American Aircraft, Reassembly of, 405
American Army's Air Freighter Scheme, (106)
Atlantic Air Record, 385
Bombing by the R.A.F., A Month's, 422
Brest, German Warships Bombed, 65, 445
Canadian Aeroplane Orders, (16)
Canadian Air Services Taken Over by C.P.R., (64)
Canadian Aircraft Plants, (142)
Canadian Aircraft Production, (80)
Contra-Propellers, Reaction of, 200
Contra-Rotation Propeller, 150
Discharge of Aircraft Workers, (158)
Fire and U.S.A. Air Service, (64)
Empire Training Scheme, (176)
Enemy Aircraft Losses in Two Years of War, 143
German Aircraft Developments, 394
German Aircraft Losses, 265
German Power Stations Bombed, 97
Gun Turrets, "Bristol" Aircraft, 357
Gunnery, Aerial, 168
Hall, A. H., Retirement from Farnborough, 28
Labour in the Aircraft Industry, Select Committee on National Expenditure, 44
Magnesium for Aircraft, (48)
Mica for Canadian Aviation Plugs, (112)
Northern Ireland Air Mail Service, (142)
Parachute Towers, New York World's Fair, (142)
Plastics in Aircraft Production, Monsanto Chemical Company, (80)
Plywood, Aircraft, Australian Standard, (284)
Propeller, Contra-Rotation, 150, 200
Radio Location, 56
Record Atlantic Flight, 385
Regional Emergency Services Officers for Aircraft Production, 229
Royal Air Force, A Month's Bombing, 422; October Air Offensive, 325
Royal Air Force Targets in Germany, No. XXII, Rhineland Power Stations, 117; No. XXIII, Port of Stettin, 251; No. XXIV, Karlsruhe, 326; No. XXV, Essen, 416; No. XXVI, Magdeburg, 437
Russian Air Force, 314
Russian Pilots in U.S.A., (158)
Scholarships, S.B.A.C., (404)
Society of British Aircraft Constructors, Elections, 365; Scholarships, (404)
Transatlantic Air Services, (228)
Transmission Line, Air Patrol, in Montana, (176)
Trans-Tasman Air Services, (158)
U-Boat Surrenders to British Aircraft, 159
Wright Aeronautical Corporation, New Building, (126); Expansion, (264)

Aerodromes:

Malaya, Air Ports in, C. A. Middleton Smith, 446
Runway Widening in Georgia, U.S.A., (324)
United States, Civil Airport Development in the, 116, 130, 151, 164

Aero-engines and Aircraft:

"Bristol" Aircraft Gun Turrets, 357
Bristol "Beaufighter," 92
Bristol "Hercules" Aero-engine, 399
Consolidated "B.24 Liberators," (64)
Direct Injection *versus* Carburetter, 120
Douglas "B.19" Bomber, 1
"Flying Fortress" in Action, (158)
Ford Aero-engine Works, New, 353
"Halifax" Four-engined Bomber, 177
High-speed Military Aeroplanes, The Design of, C. L. Johnson, 392, 420, 432
Rotol Airscrew, 150
Supercharging of Engines, 454

Agricultural Implement Factory in Transvaal, 149
Agricultural Improvement Council, (7)
Agricultural Machinery, Imported, 193
Agricultural Tractors, Statistics, (48)
Aids to Output, 244
Aims and Scope of the Mechanical Engineering Curricula, A. G. Christie, 155; (Leading Article, 150); (Letter, 171)
Air and Water—*Weekly*

AIR RAID PRECAUTIONS:

Brick Walls, Reinforced, for Surface Shelters, Ministry of Home Security Bulletin C.20, 201
Civilian Helmets for Workers, (142)
Engineering Industry, A.R.P. and the, Joint Meeting, (356)
Fire Prevention (Business Premises) No. 2 Order, 217
Fire Stops for Timber Roofs, (324)
Gas Masks, Cost of, in U.S.A., (64)
G.W. Railway, Decontamination Coaches, (444)
Incendiary Bombs, Structural Precautions Against, (324)
Reinforced Concrete Structures, Resistance of, to Air Attack, (284)
Ventilation System for Air Raid Shelters, Andamite, Ltd., 14
Water Supplies, Auxiliary, for Fire Fighting, (373)

Alcohol for Power, (122)
Alcohol, Power, in India, (462)
Alcohol, Power, from Wheat, (246)
Alcohol from Wood Waste, (244)
Allen, Edgar, and Co., Ltd., Annual Meeting, 33
Alloys, Structure of, W. Hume-Rothery, 441
Aluminium Alloy Explosive Rivets, (176)
Aluminium and its Alloys, Heat Treatment of, Northern Aluminium Co., Ltd., 94
Aluminium, American Demands, (404)
Aluminium, Brass and Magnesium, Die Casting Machine for, A. Herbert, Ltd., 103
Aluminium Paint, (32)
Aluminium Paint, Fire and, (112)
Aluminium Paint Substitutes, (462)
Aluminium Plants, American, (126), (192)
Aluminium, Rubber for, U.S. Rubber Co., (413)
Aluminium Sheets, Australian, (48)
Aluminium, South African Control of, 442
Aluminium Technology, Northern Aluminium Co., Ltd., (460)
Amarillo Helium Plant, (28)
American Army Camps, Sanitation for, 55

AMERICAN ENGINEERING NEWS:

Army Tank Building, 46
Bessemer Steel Developments, 413
Breakwaters, Submerged, at Chicago, 273
Cast Iron, Copper in, 133
Chicago Submerged Breakwaters, 273
"City of Midland," Train Ferry Steamer, 46
Coal and Steel Situation, 453
Copper in Cast Iron, 133
Ground-water Water Supply in Indiana, 413
Locomotives, Load Distribution of, 46
Locomotives, Oil Engine and Steam, 133
Metals, Flow and Rupture of, 413
Mining Progress, 46
Oil Engine and Steam Locomotives, 133
Ship Model Testing Plant, 133
Steel and Coal Situation, 453
Steel Manufacture, Research in, 273
Suspension Bridge, New Type of, 46
Tank Building, Army, 46
Training in American Factories, 453

American Public Works Planning, 273
American Scientific Research, (158)
American Scrap, (96)
American Visit of British Industrialits, 143
Anaconda Copper Co., New Works, (364)
Analysis Apparatus, Electro-chemical, Griffin and Tatlock, Ltd., 190
Anchorites Trafalgar Day Luncheon, (284)
Anglo-Iranian Oil Co., Ltd., Sir W. Fraser Appointed Chairman, 1
Anti-dermatitis Preparations, (344)
Antimony, Effect of, on Magnesium, Cardiff Experiments, (235)
Antimony, Indian, (257), (364)
Appointments, Dual, 113
Apprentice Training Scheme, Brush Electrical Engineering Co., Ltd., (48)
Approximate Mechanics of Falling Bodies, W. R. Crawford, 430
Armament Factories, Discipline in, 49
Arms Production, Lord Beaverbrook's Statement, 133
Army, Supply of Technical Equipment to the, K. H. Tuson, 67
Artificial Abrasives and Nitrogen in the United States, 62
Arvida Aluminium Plant, Quebec, (112)
Asbestos from India, (208)
Asbestos Industry in U.S.A., (80)
Asbestos in Western Australia, (192)
Assets, Industrial, Depreciation of, 86, 107

ASSOCIATIONS, INSTITUTIONS & SOCIETIES:

Institution Libraries, 56; (Letter, 89)

ASSOCIATION, AMERICAN FOUNDRY:
Copper in Cast Iron, 133

ASSOCIATION, AMERICAN WATERWORKS:
Drinking Water Standards, 149

ASSOCIATION, BRITISH:
Science and World Order, Conference on, 159, 215, 222, 238, 239; (Leading Articles, 218, 236)
Declaration of Scientific Principles, 239
Elastic Dislocations, E. Volterra, 238

ASSOCIATIONS, INSTITUTIONS & SOCIETIES (*continued*):

ASSOCIATION, BRITISH (*continued*):
Heat and Power Requirements, World, Sir H. Hartley, 217, 239
Natural Resources, C. H. Desch, 238
Opening Address, Sir R. Gregory, 216
Research, W. Penfield, 238
Science in War, Lord Samuel, 216
Tennessee Valley Development Scheme, L. Gulick, 216
Universities and Industrial Research, F. H. Boer, 239
Use and Misuse of Science in Government, A. V. Hill, 222; (Leading Article, 236)
Water Power Resources, H. P. Vowles, 238
Younger Scientists, D. P. Riley, 238

ASSOCIATION, BRITISH CAST IRON RESEARCH:
Annual Report, 360

ASSOCIATION, BRITISH COAL UTILISATION RESEARCH:
Annual Meeting, 425
Efficient Use of Coal, (364)

ASSOCIATION, BRITISH ENGINEERS':
Election of Officers, 247
Handbook, 185

ASSOCIATION, BRITISH NON-FERROUS METALS RESEARCH:
Structure of Alloys, W. Hume-Rothery, 441

ASSOCIATION, DIESEL ENGINE USERS:
Home-produced Fuels for Oil Engines, 138
Railway Oil Engine, B. Reed, 154

ASSOCIATION OF ENGINEERS, MANCHESTER:
Prize Awards, (228)

ASSOCIATION OF RAILROADS, AMERICAN:
Oil Engine and Steam Locomotives, 133

ASSOCIATION OF REFRIGERATION, BRITISH
Luncheon, 285

ASSOCIATION OF SCIENTIFIC WORKERS:
Conferences of Industrial Scientists, (384)
Technical Ability, 167

ASSOCIATION OF SPECIAL LIBRARIES:
Annual Meeting, (462)

INSTITUTE, FRANKLIN:
Levy, Louis E., Medal Award, 1

INSTITUTE, IRON AND STEEL:
Deflection of Cast Iron at High Temperatures, 172

INSTITUTE OF BRITISH FOUNDRYMEN:
Foundries After the War, R. Mills (Presidential Address), 39

INSTITUTE OF FUEL:
Melchett Medal Award to Dr. C. A. Seyler, (96)

INSTITUTE OF INTERNATIONAL AFFAIRS, ROYAL:
Raw Materials, World Production of, (140)

INSTITUTE OF MARINE ENGINEERS:
Mottistone, Lord, Nominated President, (364)
Training of Marine Engineers, D. Hastie Smith, 241

INSTITUTE OF METALS:
Greenly, Sir J., Nominated President, (217)

INSTITUTE OF PHYSICS:
Annual General Meeting, (16)
Industrial Radiology Group, (32)

INSTITUTE OF TRANSPORT:
Road Transport, J. S. Nicholl (Presidential Address), 258

INSTITUTE OF WELDING:
Welded Ships, Bibliography, (275)

INSTITUTION OF AUTOMOBILE ENGINEERS:
Automobile Research, 254
Automobile Research Committee, Election of Chairman, (284)

INSTITUTION OF CHEMICAL ENGINEERS:
Hinchley Memorial Lecture, (36)
Treatment of Sewage and Trade Effluents, A. Parker, 422

INSTITUTION OF CIVIL ENGINEERS:
A.R.P. and the Engineering Industry, (356)
Education of Engineers, C. E. Inglis (Presidential Address), 319, 327; (Leading Article, 334)

INSTITUTION OF ELECTRICAL ENGINEERS:
A.R.P. and the Engineering Industry, (356)
Calculating Machines, E. W. Crew, 438
Installations Section, (64)
Plastics for Cable Making, S. W. Melsom, (393)
Post-war Planning, Committee, 265
Technical Man Power, 421
Wireless, Future of, Sir Noel Ashbridge (Presidential Address), 301

ASSOCIATIONS, INSTITUTIONS & SOCIETIES (*continued*):

INSTITUTION OF ELECTRICAL ENGINEERS (*continued*):
London Students:
Telecommunications of the Future, W. G. Radley, 300

INSTITUTION OF ENGINEERS, AUSTRALIAN:
Birkenhead Bridge, Port Adelaide River J. P. McMahon, (96)

INSTITUTION OF ENGINEERS AND SHIPBUILDERS, NORTH-EAST COAST:
Condensing Plant and Cooling Water Systems, The Design of, W. T. Bottomley, 13
Twenty-five Years of Marine Progress, W. A. Woodeson (Presidential Address), 270

INSTITUTION OF ENGINEERS AND SHIPBUILDERS IN SCOTLAND:
Compass and Other Aids to Navigation, F. C. Stewart (Presidential Address), 298

INSTITUTION OF ENGINEERS, SOUTH AFRICAN
Presidential Address, R. H. Harriss, 174

INSTITUTION OF ENGINEERS-IN-CHARGE:
Combustion of Tar and its Products, W. Kirby, 122
"Tale of the Sea," J. Harrison, 199

INSTITUTION OF LOCOMOTIVE ENGINEERS:
Smoke Deflectors for Locomotives, H. Holcroft, 198

INSTITUTION OF MECHANICAL ENGINEERS:
A.R.P. and the Engineering Industry, (356)
Guy, Dr. H. L., Appointed Secretary, 285
Hammer Blow in Locomotives, Sir H. Colam and J. D. Watson, 425, 457; (Leading Article, 454)
Locomotive in Mechanical Engineering, W. A. Stanier (Presidential Address), 290, 309, 320, 328; (Leading Article, 315)
Locomotive Balancing, E. S. Cox, 425, 457; (Leading Article, 454)
Luncheon, 197
Technical Man Power, 421
Tunnelling, A Century of, W. T. Halcrow (Hawksley Lecture), 368, 389, 409
Wartime Iron, Reports, (96)

INSTITUTION OF NAVAL ARCHITECTS:
Chatfield, Lord, Elected President, (424)
Luncheon, (424)

INSTITUTION OF PRODUCTION ENGINEERS:
Luncheon, (264)
Personnel and War Production (Luncheon Speech, (Ernest Bevin), 226; (Leading Article, 236)

SOCIETY, INDUSTRIAL WELFARE:
Conference at Reading, 159

SOCIETY, NEWCOMEN:
Beginnings of the Newcomen Society, A. Titley, 338
Coming-of-Age Meeting, 345
Early Application of Engineering to the Warming of Buildings, A. F. Dufton, 4
History of the Hydraulic Extrusion Process, C. E. Pearson, 188
Programme of Meetings, 167
Quarterly Bulletin, (126)
"What's Past is Prologue," C. E. Davies (Presidential Address), 400

SOCIETY, ROYAL:
Science and Government, Sir H. Dale (Presidential Address), 391

SOCIETY, STEPHENSON LOCOMOTIVE:
Annual Meeting, (462)

SOCIETY, THORESBY:
Sorocold's Waterworks at Leeds, 1694, F. Williamson and W. B. Crump, 352, 372

SOCIETY OF ARTS, ROYAL:
Gray Memorial Trust Prize, (48)
Irrigation in India, Sir B. Darley, 360
Machine Tools and the War, Sir E. Crowe, 342

SOCIETY OF BRITISH AIRCRAFT CONSTRUCTORS:
Election of Officers, 365
Scholarships, (404)

SOCIETY OF CIVIL ENGINEERS, AMERICAN:
Compaction of Cohesionless Foundation Soil by Explosives, A. K. B. Lyman, 45
Construction Work for the U.S. Army, R. B. Somervell, 397

SOCIETY OF MECHANICAL ENGINEERS, AMERICAN:
Chromium Plating of Cylinders, H. van der Horst, 123
Colloidal Fuel, J. E. Hedrick, 361
Steam *v.* Diesel-electric Locomotives, E. E. Chapman, 101

ASSOCIATIONS, INSTITUTIONS & SOCIETIES (*continued*):

SOCIETY OF NAVAL ENGINEERS, AMERICAN:

Centrifugal Pumps, Visual Experimentation with, H. L. Cooper, 278; (Leading Article, 274)

To-day's Machine Tools, Machinery and Mechanised War, R. E. W. Harrison, 259

Austin, Lord, Memorial, (119)
Australia's War Work, (142)
Auto-Header Combine Harvester, H. V. McKay Massey-Harris Proprietary, Ltd., 206
Axle-boxes, Hydraulic Press for Mounting and Removing, British Timken, Ltd., 340

B

BAKELITE Case Pressure Gauge, Hopkinsons, Ltd., 207
Bakelite Grips for Gauges, Pratt and Whitney Co., (246)
Ball and Roller Bearings, P. Pringle, 29
Bauxite, Hungarian, (462)
Bearings, Ball and Roller, P. Pringle, 29
Belgian Congo Information Bureau, (192)
Belt, Conveyor, Shasta Dam, California, (141)
Beryllium for Textile Fibre, (80)
Birmid Industries, Ltd., Annual Meeting, 445
Bitumen, Mechanical Behaviour of, W. Lethersich, 244
Blind Engineer's Achievement, K. W. Mason, (329)
Blue Print Paper, (96)
Bodies, Falling, Approximate Mechanics of, W. R. Crawford, 430

BOILERS:

Clad-steel Pressure Vessels, (453)
Control, Automatic Boiler, Interesting Application of, H. R. Walton, 213
Electroflo Oil-operated Boiler Regulator, H. R. Walton, 213
Forced Circulation Boiler, Large, Montaup Electric Co., 133
Marine Boiler, Large, Maine Central Railway Transport, (96)
Remote Water Level Indicator for Boilers, Hopkinsons, Ltd., 460
Tube Defect, An Unusual, 293

"Brake on the Wheels," 73
Breakwaters, Submerged, at Chicago, 273
Brick Industry Committee, (64)
Bricks, Adequate Output of, (80)
Bricks, Economy in the Making of, 177

BRIDGES:

Beloeil, Canada, Bridge, (444)
Berne, Lorraine Concrete Railway Bridge, (384)
Birkenhead Bridge, Australia, (96)
Calamity Gulch Bridge, Ontario, Demolition, (48)
Cellular Concrete Bridge in California, 149
Chernavoda Bridge, Russia, (208)
Connectors for Timber Bridges, (342)
Eagle River Bridge, Colorado, (324)
Golden Gate Bridge, (64)
India, Grand Trunk Road, Concrete Bridge, (96)
Kiev Suspension Bridge, 338
Mississippi River Bridge, (80)
Mysore Bridges, (96)
Quebec Bridge, The First (Historic Accidents), 267, 286, 306
Quebec Bridge, The Second (Historic Accidents), 406
Rainbow Bridge, Niagara Falls, 259, 349, 377
Sioux Narrows Bridge, Canada, Connectors for, (342)
Suspension Bridge, New Type, 46
Tacoma Bridge, Failure of, 128, 145, 162, 180, 202; Insurance Suit Settled, (344); Plans for New Span, (142)
Tay Bridge Disaster (Historic Accidents), 18, 34; (Leading Article, 24)
Thompson River Bridge, Canada, (444)
Welland River Bridge, Canada, (304)

Britain's Growing Power (Prime Minister's Mansion House Speech), 325
Britain's Tank Development, 49
British Engineering Production, 99
British Export Trade, Lend-Lease Materials and, 177; (Leading Article, 184)
British Industrialists to Visit America, 143

BRITISH STANDARDS INSTITUTION:

Building Standardisation Committee, (32)
Chairman, Appointment of, 365
Chemical Division, 405

Specifications:

Bronze, Leaded, Castings and Ingots, 47
Cable Glands and Sealing Boxes, 397
Cement, Portland Blast-furnace, 302
Countersinks and Drills, Combined, 441
Drills and Countersinks, Combined, 441
Engineers' Precision Tools, 227
Forgings for Ship and Marine Engine Purposes, 397
Gears for Clockwork Mechanisms, 321
Hard-drawn Phosphor-bronze Wire, 175
Incendiary Bombs, Automatic Detection of, 47
Insulators, Porcelain and Toughened Glass, for Overhead Power Lines, 47
Leaded Bronze Castings and Ingots, 47
Magnetic Materials for Use in Combined A.C. and D.C. Magnetisation, 153
Portland Blast-furnace Cement, 302
Precision Tools, Engineers', 227
Screwing Taps, 441
Silver Solder, 47
Steels, Wrought Carbon and Alloy, 302
Structural Steel, High-tensile (War Emergency), 153
Synthetic Resin-bonded Fabric Sheet, 302
Taps, Screwing, 441
Wire, Hard drawn Phosphor-bronze, 175
British Timken, Ltd., Twenty-first Anniversary, (404)
Brown, John, and Co., Ltd., Annual Meeting, 1
Buenos Aires Grain Elevators, (80)
Builders and Civil Engineering Contractors, Registration of, 353
Building Bulletin, Wartime, No. 15A, (208)
Building Bulletin, Wartime, No. 17, Resistance of Reinforced Concrete Structures to Air Attack, (284)
Building Bulletin, Wartime, No. 18, Fire Stops for Timber Roofs, (324)
Building and Civil Engineering, Call-up of Men, 345; Control of, 127, 445; Essential Work Order, 17; Labour, 325; Payment by Results in, 365, 405
Building and Civil Engineering Contracting Industries, Hours of Work, (424)
Building, Civil, Extended Control of, 445
Building Council, National, (96)
Building Materials, Control of, 265; Supply of, (192)
Buildings, Early Application of Engineering to the Warming of, A. F. Dufton, 4
Bulk Allocations to Manufacturers for Production, Board of Trade Announcement, 419
Bursaries, State, for Science Students, 113, (228)

C

CALCULATING Machines, E. W. Crew, 438
Canadian Appeal for Scrap, (444)
Canadian Metals, (112)
Canadian Oil Research, (111)
Canadian Petroleum Output, (64)
Canadian Tungsten, (16)
Canadian War Transport, 209

CANALS:

Central Canal Committee, 193, (264)
Danube and Adriatic Canal, (444)
Karachi Canal Project, (324)
Panama Canal Traffic, (158)
Panama Canal Tunnel, (364)
Rothensee Ship Lift, Magdeburg, 438

Cape Town Post Office, 23
Carbon Black, Cement and, Research, (126)
Carbon for Water Purification, (112)
Carburised Work, Determining the Case Depth of, 87
Cartography in Canada, (112)
Case Depth of Carburised Work, 87
Catalogues, 79
Cellophane for Water Flow Analysis, (112)
Cellulose Pulp for Rayon, 149
Cement and Carbon Black Research, (126)
Cement Lining for Water Mains, (112)
Census, Industrial, South African, 110
Central Joint Advisory Committee on War Production, 17
Charcoal from Coconut Shell, (112)
Chemical Operatives in Engineering Establishments, (208)
Chicago Submerged Breakwaters, 273
Chile's Metal Products from U.S.A., (207)
China Clay, (96)
China, Japanese Exploitation, (380)
China, West, River Transport in, (313)
Chinese Industry, Transference of, (48)
Chrome Ore for Canada, (96)
Chrome Ore, Indian, (16)
Chrome Plating, (192)
Chrome in South Africa, (16)
Chromite Production in Turkey, (80)
Chromium Plating of Cylinders, H. van der Horst, 123
Circumferential Seams, X-raying, R. C. Woods, 22
Civil Building, Extended Control of, 445
Civil Engineering and Building, Control of, 127, 445; Labour, 325; Call-up of Men, 345; Payment by Results in, 365, 405
Civil Engineering Contractors, Builders and, Registration of, 353
Clay, Pile Driving in, R. R. Minikin, 10
Clearing Centres, London and Scottish Areas, 81

COAL AND COKE:

American Coal Situation, 453
Bullcroft Colliery Explosion, 265
Coal, Efficient Use of, Research, (364)
Coal-loading Appliances at Durban, 148
Coal Output, A Rising, 105, 171
Coal, Recovery of Natural Gas from, L. Ranney, 78; (Letter, 106)
Coal Research in U.S.A., (48)
Coal Supplies and Distribution, 81
Coke, Hard, (284)
Coke Oven Gas, Sale of, (39)
Coke in Russia, (158)
Coking in South Africa, 175
Colloidal Fuel, J. E. Hedrick, 361
Eire Coal Position, (16)
Fuel Economy, Mines Department Request, (158)
Fuel Economy and the Select Committee, 316
Fuel and the Government, 294
Fuel and Power Controllers, Regional, 345
Industrial Fuel Consumption, Committee, 177
"Iscor" Coke-making Plant, 110
Ministry of Fuel, Proposed, Sir D. Milne Watson, 302; (Leading Article, 294)
Ohio River Bed Coal, (208)
Producer Gas, Sources of Fuel for, Committee, 345
South African Coal Industry, 110
South African Fuel Research, 342

Cobalt Production, American, (208)
Cockshutt Four-furrow Plough, R. A. Lister and Co., Ltd., 460
Coffee for Plastics, (324)
Cohesionless Foundation Soil, Compaction of, by Explosives, A. K. B. Lyman, 45
Colliding Surfaces, Contact of, F. P. Bowden and D. Tabor, 380
Colloidal Fuel, J. E. Hedrick, 361
Combine Harvester, "Sunshine" Auto-header, H. V. McKay Massey-Harris Proprietary, Ltd., 206
Combustion of Tar and its Products, W. Kirby, 122
Comfort, 434
Committee Habit, 200
Committee of Public Accounts, Report, 113
Compaction of Cohesionless Foundation Soil by Explosives, A. K. B. Lyman, 45
Compass and Other Aids to Navigation, F. C. Stewart, 298
Concentration of Industry, 33

CONCRETE:

Barges, Reinforced Concrete, 124
Bridge, Cellular Concrete, in California, 149
Concrete Improvement, American Research, (96)
Corrugated Sheets Replaced by Light-weight Concrete, (436)
Kiers, Spun Concrete, for Cotton Mills, (264)
Kuala Lumpur, Concrete Market Hall, (282)
Mixer, Portable Concrete, Blaw-Knox, Ltd., 87
Paving, Concrete, First American, (228)
Reinforced Concrete Structures, Resistance of, to Air Attack, (284)
Reinforcing Bars, (142)
Saw for Cutting Concrete, (362)
Ships, Concrete, R. Hammond, 35

Condensing Plant and Cooling Water Systems, The Design of, W. T. Bottomley, 13
Construction and Equipment of a Factory (Nineteenth Report, Select Committee on National Expenditure), 132; (Leading Article, 134)
Construction Work for the U.S. Army, R. B. Somervell, 397
Contact of Colliding Surfaces, F. P. Bowden and D. Tabor, 380
Continuous Working in War Factories, "Ericus," 146
Contracting and Building Industries, Hours of Work, (424)
Contractors, Civil Engineering, Builders and, Registration of, 353
Contractors' Plant, Care and Maintenance of, 365
Contractors' Plant, Federation of Manufacturers of, (284), (304)
Contracts, Wartime, Legal Significance of, 171
Contra-propellers, S. P. Christie, 106
Contra-propellers, The Reaction of, 200
Control of Building and Civil Engineering, 127
Control of Civil Building, Extended, 445
Control of Factory and Storage Premises, 65, 81, 106, 405
Control of Rates of Hire of Plant Order, 247
Conveyor Belts, South African Systems, 442
Cook, Thomas, and Co., Centenary, (48)
Copper, American Production, (304)
Copper in Cast Iron, 133
Copper in the Philippines, (112)
Cordage, Wire Ropes and, Dixon Corbitt, Ltd., 401
Corundum Deposits, South African, (16)
Council of Engineers, P. C. Dewhurst, 89
Crane, 40-Ton Electrically Operated, on L.M.S. Railway, 341
Cranes, Mobile, L.M.S. Railway, 225
Creosote Petroleum as Fuel, (112)
Cromptonians Association, Luncheon, (111)
Curricula, Mechanical Engineering, Aims and Scope of the, A. G. Christie, 155; (Leading Article, 150); (Letter, 171)
Cutting Oils, Effect of, on Insulating Varnishes (B.E.A.I.R.A. Report), 244
Cutting Tools, Interchange of, 113
Cylinders, Chromium Plating of, H. van der Horst, 123

D

DAMS:

Bengal Storage Dam, (462)
Dnieper Dam and Power Station, 147
Friant Dam, California, Gold from Excavation, (246), (444)
Grand Coulee Dam, Scale Model, (246)
Sacramento River Dam, California, (112)
San Felipe, Argentina, Buttress Dam, 233
Shasta Dam, California, Belt Conveyor, (141)
Vallecito Dam, Colorado, (364)

Depreciation of Industrial Assets, 86, 107
Dermatitis, Anti-, Preparations, (344)
Diamond Drilling Bits, (158)
Diamond, President Vargas, Splitting the, (246)
Die Casting Machine for Aluminium, Brass and Magnesium, Alfred Herbert, Ltd., 103
Discipline in Armament Factories, 49

DOCKS AND HARBOURS:

Alexandretta, New Jetty, (246)
Cape Town Docks, 23, (444)
Dock Labour, 113
Durban Coal Loading Appliances, 148
Magdeburg, Inland Port (R.A.F. Targets), 437
Mobile, Alabama, Dry Dock, (16)
New Orleans, Port of, (48)
Port Administration (Twenty-fourth Report, Select Committee on National Expenditure), 305
Rhine Harbour (R.A.F. Targets), 326
South African Shipping Berths, 243
Stettin, Port of (R.A.F. Targets), 251
Stoney Point Wharf, Ontario, (16)
Table Bay Harbour, 174, (264), (442); Proposed Dry Dock, 149
Vancouver Dry Dock, (16)

Documents, Confidential, Destroying for Salvage, (444)
Drilling Bits, Diamond, (158)
Drilling Machines, "Midget" Universal Electric, Consolidated Pneumatic Tool Co., Ltd., 31
Dual Appointments, 113
Du Pont Nemours Expansion, (316)
Durban's Beach, 174
Dutch East Indies Progress, (96)
Dyke Disaster at Hartford, Conn., (208)

E

EASTERN Front, Transport on the, 374
"Edgwick" Die Casting Machine for Aluminium, Brass and Magnesium, A. Herbert, Ltd., 103
Education of Engineers, C. E. Inglis (Presidential Address, Inst. C.E.), 319, 327; (Leading Article, 334)
Education, Technical, in U.S.S.R., W. R. Stoker, 330; (Leading Article, 334)
Educational System, Reconstruction of Our, 334
Effluents, Trade, Treatment of Sewage and, A. Parker, 422
Elastic Dislocations in Civil Engineering, E. Volterra, 238

ELECTRICAL MATTERS:

Alternators and Motors, Large, Higgs Motors, Ltd., 59
Batteries, Care of, Edison Swan Electric Co., Ltd., (371)
Board of Trade Takes Over Electricity Matters, (208)
Calcium Sulphate for Glass Inserts in Flameproof Enclosures, A. P. Paton, 63
California, Burbank Power Station, New Turbo-generators, (96)
Cape Town Electricity Undertaking, 341
Chicago Electricity System, Radio Patrol Cars, (126)
Directorate of Industrial Electrical Equipment, 305
Dnieper Dam and Power Station, 147
Electrical Times, 2000th Number, 353
Electro-magnet, 40-Ton, on L.M.S. Railway, 341
Estimation of the Restriking Voltage Characteristics of Supply Networks, J. S. Cliff, 75
Farm, Electricity on the, in Ontario, (142)
Flameproof Enclosure of Electrical Apparatus, H. Rainford, 312
Fortuna Power Stations, Germany, 117
General Electric Co. of America, Bequest from Retired Employee, (341); Openings for Graduates, (96)
General Electric Co., Ltd., C. C. Paterson's Appointment, 445
German Power Stations Bombed, 97
Gilbert, William, the First Electrician, 336
Goldenberg Power Station, Germany, 118
Heating of Turbo-alternator Rotors Due to Rectifier Load, R. Pohl, 204
Industrial Electrical Equipment, Directorate of, 305
Instrument Test Panel, A.C., Salford Electrical Instruments, Ltd., 119
Lamp Circuit, General Electric Co., of America, (48)
Lamps, Hard Glass for, (16)
Lightning, Motor-cars and, G. D. McCann, 125
Locomotive, Battery, for Industrial Haulage, British Thomson-Houston Co., Ltd., 119
Los Angeles Cable Tower Transportation, (126)
Magnetic Penetration, T. F. Wall, 166
Magnets, Giant Lifting, American Rolling Mill Co., (462)
Manchuria's Electric Power Output, (96)
Meters, Electricity, Reconditioning, (80)
Mine Winder, Electric, for South Africa, 243
Motor-cars and Lightning, G. D. McCann, 125
Motors and Alternators, Large, Higgs Motors, Ltd., 59
Overhead Wires, Street Lighting, (32)
Panel, A.C. Instrument Tests, Salford Electrical Instruments, Ltd., 119
Pig Farming, Electric, (16)
Plastics for Cable-making, S. W. Melsom, (393)
Port Elizabeth Power Plant, 442
Power Transmission, Electrical, Coming Crisis in, 10, 27
Rectifier Load, Heating of Turbo-alternators due to, R. Pohl, 204
Restriking Voltage Characteristics of Supply Networks, Estimation of the, J. S. Cliff, 75
Rheinisch-Westfalisches Elektricitatswerk, A.G. (Air Force Targets, XXII), 117
Rotors, Turbo-alternator, Heating of, due to Rectifier Load, R. Pohl, 204
Searchlight, Mammoth, Canadian General Electric Co., Ltd., (208)
South African Electricity Commission, 281
Supply Networks, Estimation of the Restriking Voltage Characteristics of, J. S. Cliff, 75
Switchgear, Modern Cubicle, Crompton Parkinson, Ltd., 182
Thickness Gauge, General Electric Co. of America, (165)
Toronto Electricity Supply and Black-out Test, (112)
Transformers with Sandwich Type Windings, Reactance of, S. H. Hemsley, 52
Transmission Line, Montana, Air Patrol of, (176)
Transmission Tower, Large, Transportation of, in Los Angeles, (126)
Turbo-alternator Rotors, Heating of, due to Rectifier Load, R. Pohl, 204
Turbo-generator for Hawaii, 35,000-kW, Westinghouse Co., (16)
Vaal Generating Station Undertaking, 342
Voltmeter and Ammeter Test Panel, A.C., Salford Electrical Instruments, Ltd., 119
Windmill, 1000-kW, at Grandpa's Knob, Vermont, 43, (384)

Electro-chemical Analysis Apparatus, Griffin and Tatlock, Ltd., 190
Electrode Soldering Equipment, Stanelco Products, 30
Electrolytic Manganese in the United States, 12
Emergency Powers (Defence) Regulations, 49
Employment Returns, Ministry of Labour, 33, 97, 159, 247, 325, 405
ENGINEER, THE, Change of Size, 218
Engineering and Contract Record, Waterworks Convention Special Number, (96)

Engineering Curricula, Aims and Scope of the Mechanical, A. G. Christie, 155; (Leading Article, 150); (Letter, 171)
Engineering, Early Application of, to the Warming of Buildings, A. F. Dufton, 4
Engineering Production, British, 99
Engineers, Council of, P. C. Dewhurst, 89
Engineers in Government Service, 43
Engineers, the Institutions, and the Government, 150; (Letter, 171)
Engineers, Shortage of, 73, 106, 137, 153, 171

ENGINES:

Akroyd Stuart Engine, Ruston and Hornsby' Ltd., 73
Cylinders, Chromium Plating of, H. van der Horst, 123
Direct Injection *versus* Carburetter, 120
Fuels, Home-produced, for Oil Engines (D.E.U.A. Report), 138
Locomotives, Oil-engined, on American Railways, 133
Marine Oil Engine, 6000 S.H.P., J. G. Kincaid and Co., Ltd., 358
Oxygen-boosting of Diesel Engines for Take-off, P. H. Schweitzer and E. R. Klinge, 90
Prime Mover Development after the War, S. P. Christie, 26
Producer Gas Engine for Ferry Boat, (80)
Railway Oil Engine, B. Reed, 154
Winding Engine for Indian Gold Mine, (324)

Essen (R.A.F. Targets in Germany), 416
Essential Work Order for the Building and Civil Engineering Industries, 17
Esso Pipe Line, Portland and Montreal, (462)
Evaporator, Cast Iron Low-pressure, Repair of, British Oxygen Co., Ltd., 38

EXHIBITIONS:

Royal Engineers Trade Training Exhibition, 247
Small Spare Parts Exhibition at Birmingham, (284)
South African Exhibition War Train, 149
Swedish Fair, Göteborg, (71)

Expenditure, National, Select Committee on, Fifteenth Report, 44; Seventeenth Report, 49; Eighteenth Report, 127; Nineteenth Report, 132; Twentieth Report, 140; (Leading Article, 134); Twenty-first Report, 127; Twenty-second Report, 170; Twenty-fourth Report, 305; (Leading Article, 316); Twenty-fifth Report, 345; (Leading Article, 375)
Export Control, (16)
Export, Raw Materials and, 257
Extrusion of Plastics, Extruded Plastics, Inc., (444)
Extrusion Process, Hydraulic, History of the, C. E. Pearson, 188

F

FACTORIES, South African War, 110
Factories, War, Continuous Working in, "Ericus," 146
Factories, War Damaged, Repairs to, 229
Factory, Construction and Equipment of a (Nineteenth Report, Select Committee on National Expenditure), 132; (Leading Article, 134)
Factory Lighting by Glass Blocks, (126)
Factory and Storage Premises, Control of, 65, 81, 106, 405
Falling Bodies, Approximate Mechanics of, W. R. Crawford, 430
Falun, Swedish Copper Mining Town, Three-hundredth Anniversary, (444)
Far East, Industries of the, C. A. Middleton Smith, 98
Farm Implement Factory in Transvaal, 149
Fatigue Information, Request for, A. C. Vivian, 356
Federation of British Industries, 247
Federation of Manufacturers of Contractors' Plant, (284), (304)
Filling Factories, Labour Problems in, 49
Fire and Aluminium Paint, (112)
Fire Prevention (Business Premises) (No. 2 Order, 217
Flame Gas Temperatures, The Measurement of, W. T. David, 186
Flame Hardening Machines, Shorter Process Co., Ltd., 6
Ford Foundry at Windsor, Ont., (462)
Foreman, The Wartime, 415
Foremanship, Courses of Lectures in, 71
Forthcoming Engagements—*Weekly*
Foundation Soil, Compaction of Cohesionless, by Explosives, A. K. B. Lyman, 45
Foundations, R. R. Minikin, 428, 448
Foundries After the War, R. Mills, 39
Fraser, Sir W., Appointed Chairman, Anglo-Iranian Oil Co., Ltd., 1
Fuel, Colloidal, J. E. Hedrick, 361
Fuel Economy, Mines Department Request, (158)
Fuel Economy and the Select Committee, 316
Fuel, Efficiency in the Use of, Meetings, (404)
Fuel and the Government, 294
Fuel, Ministry of, Proposed, Sir David Milne Watson, 302; (Leading Article, 294)
Fuel and Power Controllers, Regional, 345
Fuels for Eire Producer Gas Vehicles, (333)
Fuels, Home-produced, for Oil Engines (D.E.U.A. Report), 138
Furnace, "Parca" Semi-gas, A. Ohlsson, (7)
Fuse Filling Plant, Canadian, (48)

G

GALENA Deposit in Palestine, (384)
Garage for Snow Ploughs at Montreal, (142).
Garage, Underground, at San Francisco, (142)
Gas Generator, The "Parca," A. Ohlsson, (7)
Gas, Natural, Recovery of, from Coal, L. Ranney, 78; (Letter, 106)
Gas Research Board, 127
Gas Supply, Directorate of, (264)
Gasholders, Spherical, in Cleveland, Ohio, (158)
Gauge, Pressure, with Bakelite Case, Hopkinsons, Ltd., 207
Gauges, Plastic Grips for, Pratt and Whitney Co., (246)
Geometrical Problem, 57
German Petrol Shortage, (384)
Germany's Technical Press, (126)
Gilbert, William, the First Electrician, A. K. Bruce, 336
Glasgow Corporation Transport, (444)
Glass Blocks for Factory Lighting, (126)
Glass Firms' Defence Panel, (48)
Glass, Hard, for Lamps, (16)
Glass, Optical, Production in Canada, (142)
Glassmaking, Tin Oxide for, (64)
Glycerine, Demand for, National Chemical Products, Ltd., (96)
Glycerine, Tempering with, (208)
Gold from Friant Dam Excavation, (246), (444)
Gold Production in Russia, (158)
Gold Refinery in Rhodesia, Proposed, (112)
Government, Industry, and Labour, "An Industrialist," 25; (Leading Article, 24); (Letters, 42, 73)
Government, Science and, Sir H. Dale, 391
Government Service, Engineers in, 43
Government, Use and Misuse of Science in, A. V. Hill, 222; (Leading Article, 236)
Grain Elevators at Buenos Aires, (80)
Graph Paper, Probability, and its Engineering Applications, H. Rissik, 276, 296
Graphite in Labrador, (424)
Grinding Pebbles, (64)
Gun Mounts Produced by Washing Machine Industry in U.S.A., (404)
Gun Production, South Africa, 453

H

HANDICAPS to Industrial Progress, Birmid Industries, Ltd., 445
Hankey Technical Personnel Committee, Memorandum, 354
Hard Chrome Plating, (192)
Hardening Machines, Flame, Shorter Process Co., Ltd., 6
Hartford, Conn., Dyke Disaster, (208)
Harvester, "Sunshine" Auto-header Combine, H. V. McKay Massey-Harris Proprietary, Ltd., 206
Heat Cycle, Regenerative, Efficiency of the, 394
Heat and Power Requirements, World, Sir H. Hartley, 217, 239
Heat Treatment of Aluminium and its Alloys, Northern Aluminium Co., Ltd., 94
Helium for Britain, (80)
Helium Plant at Amarillo, (28)
Helmet, Civilian, for Workers, (142)
Hire of Plant, Control of Rates of, Order, 247
Historic Accidents and Disasters, Nos. I and II, The Tay Bridge, 18, 34; (Leading Article, 24); (Letter, 436); Nos. III and IV, H.M.S. "Captain," 66, 82; Nos. V and VI, H.M.S. "Thunderer," 160, 178; Nos. VII, VIII, and IX, The First Quebec Bridge, 267, 286, 306; No. X, The Second Quebec Bridge, 406
History of the Hydraulic Extrusion Process, C. E. Pearson, 188
Holidays, 104
Hours of Work, Building and Civil Engineering Contracting Industries, (424)
Hydraulic Extrusion Process, History of the, C. E. Pearson, 188
Hydraulic Press for Mounting and Removing Axle-boxes, British Timken, Ltd., 340

HYDRO-ELECTRIC:

American Water Power Developments, (228), (384)
Fontana Hydro-electric Project, North Carolina, (126)
Glen Affric Power Scheme, 8, 17, 177
La Tuque Hydro-electric Development, Canada, 3, 20
Malaya, Hydro-electric Schemes, C. A. Middleton Smith, 447
Niagara Falls Power Co., Original Generators in Service, (384)
Saguenay River, Quebec, Power Plant for Aluminium Production, (112)
Scottish Water Power, (384)
Tacoma Hydro-electric Developments, (304)
Water Power Resources, H. P. Vowles, 238

I

INCREASING Production ("Aids to Output"), 244
India, Ordnance Workers for, (344)
Indian Arms Production, (228)
Indian Mint, A New, (126)
Indicator, Remote Water Level, for Boilers, Hopkinsons, Ltd., 460
Individual Reservation to Supersede Group Reservation, 265
Industrial Assets, Depreciation of, 86, 107
Industrial Expansion Risks, 33
Industrial Future of South Africa, R. Armitage, 442
Industrial Mobile Squads, 159
Industrial Policy, Price Stabilisation and, 77
Industrial Standards, South African, 243
Industries of the Far East, C. A. Middleton Smith, 98
Industry, Concentration of, 33
Industry and Taxation, C. K. Everitt, 33
Institutions—*see* Associations
Insulation, Wellit, (80)
International Labour Organisation Conference, (264)
Invention, Making Greater Use of, S. Macdonald, 135
Inventions, War, 68; (Leading Article, 72)
Iridium for Plating, (158)
Irrigation in India, Sir B. Darley, 360

IRON AND STEEL:

American Research in Steel Manufacture, 273
American Steel Capacity, (444)
American Steel Situation, 453
American Steel Statistics, (264)

IRON AND STEEL (*continued*):

Bessemer Steel Developments, American, 413
Borbeck Steel Plant, Essen, 418
Brazil's Iron Ore Exports, (444)
Canadian Steel Production, (137)
Cast Iron, Copper in, 133
Cast Iron, Deflection of, at High Temperatures, L. W. Bolton, 172
Cast Iron, Research and Development in (British Cast Iron Research Assoc. Report), 360
Cast Irons, Wartime, I. Mech. E. Reports, (96)
Clad-steel Pressure Vessels, (453)
Ford Foundry at Windsor, Ont., (462)
India's Iron Output, (125), (246)
Iron Ore in India, (125)
Iron and Steel Distribution Scheme, 333
Iron and Steel (No. 15) Order, 60
Ironfoundry Associations, Council of, 229
"Iscor" Extensions, 23
"Iscor" and Tool Steels, 442
Lemnite as a Steel Hardener, (140)
Machinability of Iron and Steel, (444)
Ore Transport in U.S.A., (108)
Railings for Scrap, (176)
Rails for Reinforcing Bars, (304)
Rhodesian Steel Industry, 110
Roumania's Iron, (158)
Scrap Consumption in America, (176)
Scrap Iron and Steel, L.M.S. Railway, (6)
South African Iron Exports Controlled, 243
South African Steel Industry Short of Scrap, 174
Spain's Iron Output, (304)
Steel for Hand Tools, (48)
Steel Industry, 104
Steel Sections, American Reduction in Number of Sizes, (462)
Steel Supply, Problems of, 27
Steel Tempering with Glycerine, (208)
Thabazimbi Iron Mine, Pretoria, 244
Thomas, Richard, and Co., Ltd., Annual Meeting, 127
Tool Steels, "Iscor," 442
Women in Steel Works, 425

J

JAPAN Enters the War, 405
Japanese Transport, (324), (344)
Japan's Needs, (96)
Johannesburg's Post-war Schemes, 442
"Jolleys" in Pottery Manufacturing, 451

K

KARACHI Irrigation Scheme, (324)
"Karbil" System of Acetylene Gas Transport, (344)
Karlsruhe (R.A.F. Targets), 326
Kiers, Spun Concrete, for Cotton Mills, (264)
King, Maj.-General C. J. S., Appointed Engineer-in-Chief, War Office, 229
Krupp-Gruson Works, Magdeburg, 438

L

LABOUR in the Aircraft Industry (Select Committee on National Expenditure), 44
Labour, Building and Civil Engineering, 325
Labour Conditions at British Ports, 193
Labour, Government, Industry and, "An Industrialist," 25; (Leading Article, 24); (Letters, 42, 73)
Labour Organisation, International, Conference, (264)
Labour Problems in Filling Factories, 49
Labour and Production (Twenty-fifth Report, Select Committee on National Expenditure), 345; (Leading Article, 375)
Labour and the War Effort (Twenty-first Report, Select Committee on National Expenditure), 127; T.U.C. Speech, 143
Laissez-Faire, 120
Land Reclamation, Research in, 244
Laundries, Mobile, (112)

LEADING ARTICLES:

Aerial Gunnery, 168
Air and Sea, 40
Air Warfare, Two Years of, 200
American Aircraft Output, 335
American Shipbuilding, 414
A New World, 8; (Letters, 27, 43, 57, 73, 169, 185, 201, 220, 355, 375, 396, 411, 435)
Centrifugal Pump Experiment, 274; (Letters, 395)
Comfort, 434
Committee Habit, 200
Contra-Propellers, The Reaction of, 200
Contra-Rotation Propeller, 150
Direct Injection *versus* Carburetter, 120
Educational System, Reconstruction of our, 334
Engineers, the Institutions and the Government, 150; (Letter, 171)
Factory, Lamentable History of a (Nineteenth Report, Select Committee on National Expenditure), 134
Foreman, The Wartime, 415
Fuel Economy and the Select Committee (Twenty-fourth Report), 316
Fuel and the Government, 294
German Aircraft Developments, 394
Glen Affric, 8
Government and Labour, 24; (Letters, 42, 73)
Grave Indictment (Twentieth Report, Select Committee on National Expenditure), 134
Historic Disasters, 24
Holidays, 104
Institution Libraries, 56; (Letter, 89)
Labour, The Output of (Twenty-fifth Report, Select Committee on National Expenditure), 375
Laissez-Faire, 120
Libraries, Institution, 56; (Letter, 89)
Lightness, The Search for, 184

LEADING ARTICLES (*continued*):

Locomotive Balancing, 454
Locomotives, Modern, 315
Low Temperatures, Taking Advantage of, 88
Man Power, 256
Paper for Armaments, 315
Personnel and Industry, 236
Production (House of Commons Debate), 40
Production (75 per cent.), 88
Radio Location, 56
Raw Materials and Export, 257
Regenerative Heat Cycle, The Efficiency of the, 394
Russian Air Force, 314
Science in Government (A. V. Hill's B.A. Address), 236
Science in a New World, 218
Select Committee on National Expenditure (Nineteenth and Twentieth Reports), 134
Seventy-five per Cent. (Production), 88
Shipbuilding, American, 414
Steel Industry, 104
Supercharging of Engines, 454
THE ENGINEER, 218
Tinplate Trade, The Future of the, 294
Trade, The Maintenance of, 184
Training, Intensive, of Engineers (Hankey Committee Memorandum), 354
Tramps, The Speed of, 168
Transport on the Eastern Front, 374
Transport in Post-war Planning, 274
Transport, Wartime, 355
Wages and Wisdom, 72
War Inventions and Inventors, 72
Warship Losses (H.M.S. "Prince of Wales" and "Repulse,"), 434
Wartime Transport, 355
World, A New, 8; (Letters, 27)

LETTERS TO THE EDITOR:

Akroyd Stuart Engine, Ruston and Hornsby, Ltd., 73
Atomic Induction, M. Benkert, 42
Beyer-Garratt Locomotives, E. B. Parker, 275
Brake on the Wheels, "Black Country," 73
Centrifugal Pumps, Visual Experimentation with, G. Ure Reid and O. A. Price, 395
Coal Output, A Rising, J. S. Hecht, 105; W. A. Lee, 171
Contra-Propellers, S. P. Christie, 106
Council of Engineers, P. C. Dewhurst, 89
Electrical Power Transmission, Coming Crisis in, C. J. O. Garrard, 10; H. Rissik, 27
Engineers in Government Service, J. A. N., 43
Engineers, the Institutions, and the Government, J. D. Troup, 171
Engineers, Shortage of, F. J. Potts, 73; "Old Hand," 106; "Young Hand," 137; G., 153; "Another Young Hand," 171
Fatigue Information, Request for, A. C. Vivian, 356
Garratt Locomotive, Self-phasing of the, C. Turnbull, 321; S. P. Christie, 337
Geometrical Problem, T. W. C., 57
Government, Industry, and Labour, R. R. Minikin, 42; "Managing Director," 73
"Hood," H.M.S., Loss of, I. T. Matton, 257
Kiev Suspension Bridge, "The Engineer's Granddaughter," 338
Libraries, Institution, A. R. Stock, 89
Links in the History of the Locomotive, H. W. Brady, 275; C. F. Dendy Marshall, 295; W. J. Barker, 295, 321; E. A. Forward, 321
Locomotive Wheel Notation, E. H. Livesay, 356; C. Carty and J. F. Vickery, 396
Locomotives, Compound, S. P. Christie, 376
Locomotives, Early British, P. C. Dewhurst, 219
Machine Tool Capacity Clearing House, S. Marks, 221
Monkland and Kirkintilloch Railway, S. Snell, 118; C. F. Dendy Marshall, 137
Natural Gas from Coal, Recovery of, D. Bagley, 106
New World, J. D. Troup, 27
Oerlikon Company and Germany, Oerlikon, Ltd., 257
Peace Aims, I. V. Robinson, 169, 355, 375; "Orthodocian," 185, 411; M. J. Watt and W. H. Sayers, 201; H. P. Vowles and A. Sheppard, 220; A. Sheppard and E. Bishopp, 396; J. T. Evans, 411; N. H. Bacon and F. L. Watson, 412; G. A. Neild, 436
Poincarés, The, C. Carty, 9
Prime Mover Development After the War, S. P. Christie, 26
Probability Theory and Mental Capacity, H. Rissik, 170
Rifle, Facts About the, I. Glendenning, 152; D. Weir, 153; M. G. K. Barnes, 201; W. G. Brown, 338
Russia, Technical Aid to, "Anglichanin," 9
Sandberg, Shells and Sorbite, "M.I. Mech. E," 26
Shortage of Engineers, F. J. Potts, 73; "Old Hand," 106; "Young Hand," 137; G., 153; "Another Young Hand," 171
Steam Locomotive, Development of the, "A Locomotive Engineer," 397
Steel *v.* Copper Fire-boxes, J. D. Rogers, 42
Tandem Rods on Locomotives, E. H. Livesay, 412
Tay Bridge Disaster, C. S. Jeffrey, 436
World We Could Live In, "Ynot," 57
World We Hope to Live In, J. E. Tuke, 43; M. J. Watt and F. Soddy, 73; W. A. Willox, 119

Legal Significance of Wartime Contracts, 171
Lemnite as a Steel Hardener, (140)
Lend-Lease Materials and British Export Trade, 177; (Leading Article, 184)
Levy, Louis E., Medal Award, 1
Libraries, Institution, 56; (Letter, 89)
Lighting, Factory, by Glass Blocks, (126)
Lightness, The Search for, 184
Light-weight Steam Plant, R. C. McLeod, 121
Limestone Grinding Plants, 401
Liquefied Petroleum Gas, (353)
Liquid Air Process, Russian, (96)

LITERATURE:

Reviews:

Cofferdams, L. White and E. A. Prentis, 455
Economic Peace Aims, O. Dutch, 415
Electric Power Stations, T. H. Carr, 121
Plates and Shells, Theory of, S. Timoshenko, 41

Short Notices:

Battle of the Seas, Sir A. Hurd, 74
Civil Defence, C. W. Glover, 89
Facts about the Rifle, D. Weir, (71)

Books Received:

41, 185, 197, 237, 257, 295, 335, 415

Books of Reference:

British Engineers' Association, Handbook, 185
General Engineering Handbook, C. E. O'Rourke, 244
Motor Ship Reference Book, 1941, 7
Timbers, Home-grown, Handbook of, (304)

Litharge for Rubber, (64)
Location of Industry (Restriction) Order, 1941, 65
London Area Clearing Centres, 81
Low Temperatures, Taking Advantage of, 88
Lubricating Oil Production in Italy, (64)
Lubricating Oils, Indian Research, (112)
"Lucite" for Water Flow Analysis, (112)

LONDON PASSENGER TRANSPORT BOARD:

Appointments, (246)
Cars, Two, Made into One, (293)
Winter Plans, 209

M

MACHINE TOOLS:

American Machine Tool Industry, (208)
British Machine Tool Industry and Aid for Russia, (304)
Canadian Machine Tools, (142)
Capacity Clearing Houses, S. Marks, 221
Centreless Bar-turning and Straightening Machines, Sir J. Farmer Norton and Co., Ltd., 261
Chambering Machine for Small Arms Work, Alfred Herbert, Ltd., 379
Control of Machine Tools (No. 9), Order, 345
Control of Machine Tools (Electrical Equipment) (No. 1) Order, 365
Cutting Tools, Interchange of, 113
Drilling Machine for Small Arms Work, Alfred Herbert, Ltd., 379
Interpretation of Term "Machine Tool," (344)
Lathe, "Carbicut" High-production Centre, A. Herbert, Ltd., 156
Lathe, Motor-driven Capstan, No. 2D, Alfred Herbert, Ltd., 322, (364)
Machine Tool Control, (344), 345, 365
Machine Tools and the War, Sir E. Crowe, 342
Machine Tools and the War Effort, 65
Prices of Machine Tools, 113
Reaming Machine for Small Arms Work, Alfred Herbert, Ltd., 379
Rifling Machine, Alfred Herbert, Ltd., 380
Russia, Machine Tools for, (352)
Shaping Machine, Radial, Ormerod Shapers, Ltd., 300
Small Arms, Machine Tools for, Production of, Alfred Herbert, Ltd., 379
To-day's Machine Tools, Machinery and Mechanised War, R. E. W. Harrison, 259
Wright Aeronautical Corporation's Machine Tool Distribution, (208)

Magdeburg (R.A.F. Targets), 437
Magnesium Output, American, (228)
Magnesium Plant in Ohio, Diamond Alkali Corporation, (462)
Magnetic Penetration, T. F. Wall, 166
Malaya, The Engineer in, C. A. Middleton Smith, 426, 446
Man Power, 256
Man Power and Production, 285
Man Power, Technical (I. Mech. E. and I.E.E. Conference), 421
Manganese, Electrolytic, in the United States, 12
Manhole Covers, Oxygen Cut, (344)

MAPS:

Dnieper Dam Works, 147
East Indies, 426
Essen, 416
Karlsruhe and Neighbourhood, 327
Leeds in 1815, 372
Magdeburg, 437
Malaya, 426
Rhineland High-tension Network, 117
Richmond Shipyard, California, Plan, 58
Stettin Harbours, 253

Markets Notes and News—*Weekly*
Mason, K. W., Blind Engineer's Achievement, (329)
Matches with No "After Glow," (64)
Maudslay Men, Association of, (284)
McDonald, G. G., Sydney University Appointment, 305
Measurement of Flame Gas Temperatures, W. T. David, 186
Mechanics, Approximate, of Falling Bodies, W. R. Crawford, 430
Mechanical Engineering Curricula, Aims and Scope of the, A. G. Christie, 155; (Leading Article, 150); (Letter, 171)
Mental Capacity, Probability Theory and, 170
Mercury, Cheaper Production, in U.S.A., (149)
Mercury from Chile, (126)
Mercury in India, (126)
Mercury in Rhodesia, (360)
Mercury, Search for, (16)
Mercury Shortage, (80)
Mercury in South Africa, 342
Metal-coated Plastics, Plastic Spray, Ltd., 125
THE METALLURGIST—*see* Index, page xi
Metals, Flow and Rupture of, 413
Metropolitan-Vickers Electrical Co., Ltd., Retirement of J. S. Peck, 49
Mexico Coast Defences, (32)
Mica from Brazil, (199)
Micrometer, An Early, A. J. Wilkinson and Co., (246)
"Midget" Universal Electric Drilling Machines, Consolidated Pneumatic Tool Co., Ltd., 31
Mine, The Acoustic, 177

MINES:

American Mining Progress, 46
Bullcroft Colliery Explosion, 265
Canadian Mineral Production, (80)
Canteen Plans for Miners, (176)
Conveyor Belts, South African Systems, 442
Falling Ground as Cause of Accidents, (444)
Falun, Swedish Copper Mining Town, Three-hundredth Anniversary, (444)
Fire and Aluminium Paint, Investigation, (112)
Flameproof Enclosure of Electrical Apparatus, H. Rainford, 312
Gold Mining in South Africa, (80)
Malaya, Mining in, C. A. Middleton Smith, 448
Mining Machinery and Plant, Supply of, (192)
South African Gold Mining Industry, Future of, 353
South African Mining Costs, Increase in, 149
Steel Tubes, Discarded, for Pit Props, (158)
Thabazimbi Iron Mine, Pretoria, 244
Tungsten Ore in U.S.A., (80)
Tungsten, Russian, (126)
Welded Mine Track, (78)
Winder, Electric, for South Africa, 243

Ministry of Fuel, Proposed, Sir D. Milne Watson, 302; (Leading Article, 294)
Ministry of Labour, Employment Returns, 33, 97, 159, 247, 325, 405
Ministry of Supply, Problems of Steel Supply, 27; "Valentine" Infantry Tank, 28; House of Commons Debate, 37; (Leading Article, 40); Control of Iron and Steel (No. 15) Order, 60; War Inventions, 68; (Leading Article, 72); Tinplate Plant Committee, (80); Tank Board Appointment (Mr. H. M. Ainsworth), 113; Interchange of Cutting Tools, 113; Arms Production, 133; Resistance Welding Memorandum, (142); Industrial Mobile Squads, 159; Appointments, (176), (344); Railings for Scrap, (176); Record Tank Output, (192), 209; Salvage and Recovery Board, (246); Iron and Steel Distribution Scheme, 333; Paper Salvage, 413, 445; Women in Steel Works, 425; Salvage for Munitions (Lord Portal's Broadcast), 445
Mint for India, New, (126)
Miscellanea—*Weekly*
Mitsui Chemical Plant Extension, (324)
Mobile Squads, National Industrial, 159
Molybdenum from Sweden, (80)
Monel, "Doctors," (112)
Money, Where the, Goes, 217
Montreal and Portland Oil Pipe Line, (142), (192), (462)
Munitions in the Homes, Lord Portal's Broadcast, 445
Music for Workers, (142)

MOTOR-CARS:

Acetylene Gas for Transport, "Karbil" System, (344)
Argentine Motor Vehicle Statistics, (246)
Armoured Cars and Vehicles, South African, 453
Automobile Research (I.A.E. Report), 254
Bus Seating Arrangements, (142)
Canadian Motor-car Industry, (142)
German Lorries to Use Wood Gas, (384)
German Motor Vehicle Sales to Brazil, Reduction, (444)
Goods Vehicles Released by the Services, (324)
Licences to Acquire Goods Vehicles, (208)
Licences, Motor Vehicle, (192)
Lightning, Motor-cars and, G. D. McCann, 125
L.M.S. Railway, Road Activities, 224
Longer Vehicles and Trailers, (126), (192)
Manchester's Gas-driven Buses, (16)
Plastic Motor-cars, (192)
Producer Gas Omnibuses, Barton Transport, Ltd., (80)
Producer Gas Problems, (444)
Producer Gas, Sources of Fuel for, Committee, 345
Producer Gas Transport, (80)
Producer Gas Vehicles, (126)
Producer Gas Vehicles in Eire, Fuels for, (333)
Producer Gas Vehicles in Finland, (64)
Producer Gas Vehicles, Vauxhall Motors, Ltd., (64)
Radio Patrol Cars, Chicago Electricity System, (126)
Repairs and Spare Parts, 193, 345
Road Transport, J. S. Nicholl, 258
Road Vehicles, Shortage of, (100)
San Francisco's Union Square Garage, (142)
Second-hand Buses and Coaches, (32)
South African Motor-car Industry, 342
South African Motor-cars, Effect of Sale Tax on, 149
South African Motor Vehicle Registrations, 23
Tractor Salvage in Canada, (64)
Trailer Regulations, (126)
Tyres for Motor Vehicles, (158)
Volunteer Bus Work, (364)

N

NATCHEZ - VIDALIA Bridge, Mississippi River, 100, 114
National Building Council, (96)
National Expenditure, Select Committee on, Fifteenth Report, 44; Seventeenth Report, Labour Problems in Filling Factories, 49; Nineteenth Report, Construction and Equipment of a Factory, 132; (Leading Article, 134); Twentieth Report, Merchant Shipbuilding and Repairing, 140; (Leading Article, 134); Eighteenth and Twenty-first Reports, 127; Twenty-second Report, 170; Twenty-fourth Report, 305; (Leading Article, 316); Twenty-fifth Report, 345; (Leading Article, 375)
National Industrial Mobile Squads, 159
Natural Resources, C. H. Desch, 238
Needle Factories in China, (424)
Nickel Ores, Low-grade, (80)
Nickel Production Plant in Canada, (96)
Nickel Supplies, Danish, (462)
Nickel from Venezuela, (363)
Night Work, Volunteers for, (208)
Nitrogen, Artificial Abrasives and, in the United States, 62
Northampton Polytechnic, Programme, (208)
Northern Ireland, War Production in, 33
Norton, R. J., Retirement from Petters, Ltd., 209

O

OBITUARY:

Anderson, J. P., (192)
Balfour, George, 219 (Portrait)
Brown, Andrew, 237
Budenberg, C. F., 351
Chamberlain, Arthur, (112)
Clowes, Colonel G., (119)
Cox, C. H., (112)
Cridge, R. H., (32)
Deacon, Maurice, (228)
Downs, James, (324)
Elphinstone, Sir Keith, (32), 41
Haswell, Robert, (192)
Heap, A. C., 293
Holt, Sir Herbert, 209
Howard, F. E., 335
Humphreys, C. L. Howard, 57
Hutton, W. R., (158)
Kilburn-Scott, E., 41
Lloyd, S. C., (373)
Lysaght, S. R., (142)
Mansergh, W. L., (176)
Marriner, W. W., 316
Mitchell, Brig.-General C. H., 143
Mower, G. A., 392
Nuttall, Sir Edmund K., (158)
Patterson, George, (176)
Pick, Frank, 325
Pitter, Walter C., 237
Pooley, R., (16)
Priestman, Sir John, 105
Prout, F., 41
Sandberg, C. P., 9; (Letter, 26)
Shaw, Engineer Captain J. F., 105
Silvester, C. J., (304)
Stevens, P. H., (48)
Stonehaven, Lord, 127
Straker, Ernest, 9
Wall, A. T., 185
Ward, Joseph, 28
Weston, W. N., (344)
White, Herbert, (284)

Oerlikon Company and Germany, 257
Office Machinery, Directorate of, (112)
Oil Drilling, Use of Mud in, (32)
Oil at Lakes Entrance, Australia, (462)
Oil, Lubricating, Production, in Italy, (64)
Oil Pipe Line, American, (158)
Oil Pipe Line, Montreal and Portland, (142), (192), (462)
Oil Research, Canadian, (111)
Oil Transporter, Alfa Laval Co., Ltd., 243
Old Cromptonians' Association, Luncheon, (111)
Optical Glass Production in Canada, (142)
Ordnance Workers for India, (344)
Overseas Enterprise, The War and, (112)
Oxalic Acid from Sawdust, (359)
Oxygen Cut Manhole Covers, (344)

P

PACINOTTI, Antonio, Centenary, 119
Paint, Aluminium, (32)
Paper for Armaments, 315
Paper, Blue Print, (96)
Paper-making in South Africa, 23
Paper Salvage, 315, (404), 413, (444)
Paper, Waste, and Paper Control, (404)
Paper from Water Hyacinth, (462)
Paraffin Washing Machines, Alfa-Laval Co., Ltd., (64)
"Parca" Industrial Gas Generator, A. Ohlsson, (7)
Paterson, C. C., Appointed Director of General Electric Co., Ltd., 445
Payment by Results in the Building and Civil Engineering Industries, 365, 405
Peace Aims, 169, 185, 201, 220, 355, 375, 396, 411, 436
Pebbles, Grinding, (64)
Peck, J. S., Retirement from Metropolitan-Vickers Electrical Co., Ltd., 49
Penetration, Magnetic, T. F. Wall, 166
Percolater, Magnetic, Rapid Magnetting Co., Ltd., 451
Personal and Business Announcements—*Weekly*
Personnel and War Production, Ernest Bevin, 226; (Leading Article, 236)
Petrol Shortage, German, (384)
Petrol from Waste Products, (48)
Petroleum Gas, Liquefied, (353)
Petroleum Output, Canadian, (64)
Petters, Ltd., R. J. Norton's Retirement, 209
Photographs, Admiralty Request, 425
Pig Farming, Electric, (16)
Pigeon Post of Seventy Years Ago, 157
Pile Driving in Clay, R. R. Minikin, 10
Pipe Line, Esso, (462)
Pipe Lines, American, (158), (244)
Pipe Line, Montreal and Portland, (142), (192), (462)
Plastics, British, in Time of War, 385
Plastics Combine, American, (15)
Plastics, Extrusion of, Extruded Plastics, Inc., (444)
Plastics, Metal-coated, Plastic Spray, Ltd., 125
Plastics, Plating, (208)
Plastics Substitutes for Metals, (48), (422)
Plastics, War Demand in U.S.A., (351)
Plating, Hard Chrome, (192)
Plough, Cockshutt Four-furrow, R. A. Lister and Co., Ltd., 461
Plywood in Industry, (141)
Plywood Manufacture, Synthetic Adhesives for ("Aerolite"), Aero Research, Ltd., 282
Plywood, Waterproof, (96)
Poincarés, The, C. Carty, 9
Port Charges, Increase in, 65
Portland and Montreal Pipe Line, (142), (192), (462)
Post Office, New, at Cape Town, 23
Post-war Planning, I.E.E. Committee, 265
Post-War Planning, Transport in, 274
Post-war Reconstruction, Lord Reith, 79
Post-war Reconstruction, Town Planning and, 1
Post-war Schemes for Johannesburg, 442
Potato Starch Production Plant in British Columbia, (96)
Pottery Developments, (384)
Pottery Manufacturing, Problems of, 450
Power Alcohol in India, (462)
Power and Heat Requirements, World, Sir H. Hartley, 217, 239
President Vargas Diamond, Splitting the, (246)
Press, Hydraulic, for Mounting and Removing Axle-boxes, British Timken, Ltd., 340
Presses, Extrusion (Historical), C. E. Pearson, 188
Pressure Gauge with Bakelite Case, Hopkinsons, Ltd., 207
Price Stabilisation and Industrial Policy, 77
Probability Graph Paper and its Engineering Applications, H. Rissik, 276, 296
Probability Theory and Mental Capacity, 170
Producer Gas, Sources of Fuel for, Committee, 345
Production, British Engineering, 99
Production, Bulk Allocations to Manufacturers for, 419
Production, Co-operation for, Sir E. Crowe, 342
Production, Increasing ("Aids to Output"), 244
Production, Labour and (Twenty-fifth Report, Select Committee on National Expenditure), 345; (Leading Article, 375)
Production, Man Power and, 285
Production (Seventy-five Per Cent.), 88
Production, War, Personnel and, Ernest Bevin, 226; (Leading Article, 236)
Production, War, Progress in, 65
Public Accounts, Committee of, Report, 113
Public Works Planning in America, 273
Pyrites, Spanish, (80), (364)

PUMPS:

Centrifugal Pumps, Visual Experimentation with, H. L. Cooper, 278; (Leading Article, 274); (Letters, 395)
"Pneu" Air-operated Pump, Ames Crosta Mills and Co., Ltd., 141

Q

QUARTZ Crystal, (126)

R

RAILWAYS (GENERAL MATTERS):

Accidents:

American Railways, Level Crossing Accidents, (48)

GREAT WESTERN RAILWAY:

Slough Collision, (16), 305

LONDON MIDLAND AND SCOTTISH RAILWAY:

Holmes Chapel Train Collision, 177

LONDON AND NORTH-EASTERN RAILWAY:

Train Fire Report (Westborough), 28

Acceleration of Transport, 321
Alston Mine Railway, (324)
American Association of Private Owners of Rolling Stock, (80)
American Railways and Defence, (424)
American Railways, Employment Statistics, (16); Freight Car Requirements, (16); Straight Sections on, (32); Time Tables, (48); Transport Statistics, (364)
American Wagon Building Programme, (176)
Anderson, Sir Alan, Railway Executive Appointment, 97
Argentine Railway Work, (424)
Argentine Railways, Fuel Shortage, (64); Petroleum Trains, (284)
Australian Permanent Way Improvements, (149)
Australian Railways, Rolling Stock, (384)
Boston, U.S.A., Coaling Station, (16)
Brazil Railways, National Department, (208)
British Railways, Future of, Lord Monkswell, 247
Bulgarian State Railways, Jugoslav and Greek Lines Taken Over, (96)
Burma and China Railway, (63), (96)
Canadian National Railways, Earnings, (176), (264); 1942 Programme, (424)
Canadian Railway Earnings, (157), (176), (264)
"Cash on Delivery" Centenary, (192)
Chesapeake and Ohio Railway, Level Crossings, (16)
Chicago Underground Railways, 268, 288, 317
Chilean Government Takes Over Nitrate Railways Co., Ltd., (208)
Chinese Railway Progress, (158)
Clogher Valley Railway, Ireland, Closed, (183), (192)
Costa Rica Railway Amalgamation, (80)
Danish Railways to Buy Wagons, (444)
Eire, Light Railway to Connect Clonsast Bog with Great Southern System, (96)
Employment on British Railways, (64)
Exhibition War Train, South African, 149
Future of British Railways, Lord Monkswell 247
Geneva Railway Junction Scheme, (228)

RAILWAYS (GENERAL MATTERS) (*continued*):

German Railways, Bigger Wagons, (264)
German Railways and Sleepers, (80)
Government Control of Railways, 143
Indian Railway Earnings, (228)
Indian Railways, Government Control, (424)
Iran Railways, Director of Transport Appointed, (264)
Jaipur State Railway, (176)
Level Crossings, Chesapeake and Ohio Railway, (16)
London and Brighton Railway Centenary, 193
Maine Central Railway, Transport of Large Boilers, (96)
Manitoba Line Closure, (96)
Mexican Railways, Oaxaca and Chiapas Line, (31), (404)
Mexican Railways, Tehuantepec Line Reconstruction, (246)
Monkland and Kirkintilloch Railway, 118, 137
Moscow Railway Facilities, (96)
Narrow-gauge Tracks Passing Out in U.S.A., (304)
New South Wales Railways, War Freights, (364)
New York Street Railways, (126)
New York Suburban Railways, "No Smoking" Signs, (64)
New Zealand Government Railways, P. R. Angus Appointed C.M.E., (404)
"Nominated Loading," (23)
Norwegian Railways, (264)
Persian Railway Requirements, (364)
Petroleum Trains for the Argentine, (284)
Pullman Railway Hospitals, (32)
Rail and Road—*Weekly*
Rails, Cropping of, in Brazil, (284)
Rails for Reinforcing Bars, (304)
Rails, Welded, in U.S.A., (364)
Railway Executive, Sir A. Anderson's Appointment, 97
Railways *versus* Rivers in U.S.A., (32)
Russian Freight Rates, (126)
Russian Railways, Neldy and Jezkazgan Line, (64)
Sahara Desert Railway, Proposed, (89)
Simplon Line Double Track, (384)
Sleeping Cars, German, (80), (192)
South African Exhibition War Train, 149
South African Railway Costs, Increase in, 149
South African Railways, Record Earnings, 110, (424), (442); Post-war Work, 342; Report, 23; Trucks for, 243
Sudan, Railways, Rolling Stock, (284)
Swedish State Railways, Truck for Rolling Mill Transport, (208)
Swedish Train Ferry, New, (176)
Syrian Railways, (255)
Third Class Only Trains, (192)
Tickets, Thickness of, (404)
Transport on the Eastern Front, 374
Truck for Gun Transport, (384)
Trucks, German Use of, (48)
Uruguay Railway Extensions, (96)
Wagon-building Programme, American, (176)
Wagons, Bigger, for German Railways, (264)
Wagons for Danish Railways, (444)
Wagons and Engines for Russia, 325
Welsh Highland Railway, Dismantling, (64), 81
Winter Railway Travel, 81
York, Rowntree Park, Model Railway, (404)
Yunnan and Indo-China Lines Dismantled, (96)

Great Western Railway:

Appointments, (264), (457)
Centenary, 1
Collett, C. B., Retirement, 17
Decontamination Coaches, (444)
Hawksworth, F. W., Appointed C.M.E., 17
Mobile Canteen, (284)

London Midland and Scottish Railway:

Appointments, (126), (264)
Crane, 40-Ton Electrically Operated, 341
Fenchurch Street Station Centenary, 89
Paper Salvage, (6), (444)
Road Activities, 224
Salvage, (6), (444)
Troop Trains, (208)
Women Workers, (32)
"Workers Only" Trains, (344)

London and North-Eastern Railway:

Blizzard Damage, (176)
Electrical Engineer's Department Appointments, (119)
Leman Street and Shadwell Stations, Closing, (16)
London and Cambridge Road–Rail Service, 1851, (126)
Medal, (48)
Sandeman, W. Y., Assistant Engineer, Southern Area, 97
Water-softening Sludge, Utilising, (462)

Southern Railway:

London and Brighton Railway, Centenary, 193
War Activities, (228)

Electrification of Railways:

Hungarian Railway Electrification, (264)
Italian Railways' Electrified North-South Route, (444)
Manchester and Altrincham Electric Trains, (228)
Spanish Railway Electrification, (158)
Swedish Railway Electrification, (158), (284)
Swiss Railway Electrification, (16)

RAILWAYS, LOCOMOTIVE MATTERS:

American Locomotives for Export, (32)
Balancing of Locomotive Reciprocating Parts, E. S. Cox, 425, 457; (Leading Article, 454)

RAILWAYS, LOCOMOTIVE MATTERS (*continued*):

Battery Locomotive for Industrial Haulage, British Thomson-Houston Co., Ltd., 119
"Beyer-Garratt" Locomotive Experience, E. H. Livesay, 210; (Letters, 275, 321, 337)
Boston, U.S.A., Coaling Station, (16)
British Locomotives, Early, P. C. Dewhurst, 219
Canadian Government Borrows U.S. Locomotives, (103)
Canadian Locomotive Experiences, E. H. Livesay, VII, C.P.R. Four-coupled Engines, 50; VIII, "The Chinook," C.P.R., 346; IX, Montreal to Ottawa Express, C.P.R., 366; (Letter, 412); X, Montreal and Toronto "Pool" Services, 386
Compound Locomotives, S. P. Christie, 376
Egyptian State Railways, Oil-fired Locomotives, (112)
Electric Locomotives for Sorocabana Railway, Brazil, (208)
Fire-boxes, Steel *v.* Copper, J. D. Roger, 42
Fuel for Canadian Locomotives, (246)
G.W. Railway, Churchward's "Saint" Class 4–6–0 Engine, 291
Hammer Blow in Locomotives, Sir H. Colam and J. D. Watson, 425, 457; (Leading Article, 454)
India, G.I.P.R., Locomotives Revert to Coal Firing, (284)
Japanese Railways, Electric Locomotives, (16)
Links in the History of the Locomotive: Stephenson Locomotives on the Stockton and Darlington Railway, E. A. Forward, 230, 248; (Letters, 275, 295, 321)
Load Distribution of Locomotives, 46
Locomotive in Mechanical Engineering, W. A. Stanier (Presidential Address, I. Mech. E.), 290, 309, 320, 328; (Leading Article, 315)
L.M.S. Railway, "Royal Scot" Class 4–6–0 Engine and "Coronation" Class 4–6–2 Engine, 292, 310
L.N.E. Railway, Electric Locomotive for Manchester and Sheffield Service, 229, 332; Freight Locomotives, 2–8–0, for Russia, 402; Locomotive Mileage Figures, (208)
L. and N.W. Railway, "George V" Class 4–4–0 Engine, 291
Midland Railway, 0–6–0 Freight Engine, Class "3," 291
Oil-engined Locomotives on American Railroads, 133
Russian Locomotives Captured by Germany, (424)
Smoke Deflectors for Locomotives, H. Holcroft, 198
Southern Railway, "Channel Packet" Class Locomotive, Trial Run, 337; "Merchant Navy" Class Locomotive "Union Castle," 17
Spanish Railways, New Locomotives, (444)
Steam *versus* Diesel-electric Locomotives, E. E. Chapman, 101
Steam Locomotive, Development of the, E. C. Poultney, 320; (Letter, 397)
"Steamotive," Union Pacific Turbo-electric Locomotive, 329
Stephenson Locomotive Society, (462)
Test Plant at Rugby, 311
Victorian Government Railways, 4–8–4 Locomotives, (96)
Wheel Notation, 356, 396

Diesel, Oil and Oil-electric (and Railcars):

Argentine Diesel Traction, (228)
Great Western Railway Parcels Railcar, Associated Equipment Co., Ltd., 14; Twin-coupled Railcars, Associated Equipment Co., Ltd., 338
Missouri Streamlined Oil-engined Trains, (192)
Oil Engine, The Railway, B. Reed, 154
Oil-engined Locomotives on American Railroads, 133
South African Diesel Engine-driven Locomotives, Landsborough Findlay (S.A.), Ltd., (404)

Raw Materials and Export, 257
Raw Materials, World Production of, (140)
Rayon, Cellulose Pulp for, 149
Reactance of Transformers with Sandwich Type Windings, S. H. Hemsley, 52
Reaction of Contra-propellers, 200
Reconstruction, Post-war, Lord Reith, 79
Reconstruction, Post-war, Town Planning and, 1
Recorder for Dissolved Oxygen Level in Sewage Treatment, (424)
Regenerative Heat Cycle, The Efficiency of the, 394
Regional Fuel and Power Controllers, 345
Regulator, Electroflo Oil-operated, H. R. Walton, 213
Remote Water Level Indicator for Boilers, Hopkinsons, Ltd., 460
Repairs to War Damaged Factories, 229
Research, 74, 238
Reservation, Individual, to Supersede Group Reservation, 265
Reviews—*see* Literature
Rifle, Facts About the, 152, 201, 338
River Transport in West China, (313)
Rivets, Explosive, E. I. Du Pont Nemours and Co., (176)

ROADS AND HIGHWAYS:

Acceleration of Transport, 321
Africa, Great North Road, Reconstruction, 229
American Road Survey, (142)
Canadian Highway Progress, (80)
Coloured Chippings for Road Dressings, (171)
Concrete Paving, First American, (228)
Government Road Haulage Scheme, (80), 265, 305
Japanese Motor Trunk Road, (324)
Malaya, Roads in, C. A. Middleton Smith, 446
Markings for Roads by Coloured Chips, (126)
Mexico and Panama Road, (80)
Overhead Wires, Street Lighting, (32)
Rail and Road—*Weekly*

ROADS AND HIGHWAYS (*continued*):

Road Haulage (Operations) Advisory Committee, (80)
Road-rail Service, London and Cambridge, 1851, (126)
Road Transport, J. S. Nicholl, 258
Salt Treatment for Icy Roads, (304)
South African Highway Engineering, (264)
South African National Roads, 342
South African Roads Five-year Plan, 23
"Stop" Road Sign, New Type, Vancouver Experiments, (192)
Tar Carpets as Road Dressings, (112)
War Transport and a Quick Turn Round, 385

Roebling, J. A., Centenary, (364)
Roofing Material, Control of, (255)
Ropeway, New Indian, (228)
Rubber for Aluminium, (413)
Rubber, Litharge for, (64)
Russia, Supplies to, India Route, 402
Russia, Technical Aid to, 9, 65
Russia, Technical Education in, W. R. Stoker, 330; (Leading Article, 334)
Russian Gold Production, (158)
Russian Liquid Air Process, (96)

S

SALVAGE for Munitions, Lord Portal's Broadcast, 445
Sanitation for American Army Camps, 55
Sawdust to Yield Oxalic Acid, (359)
Sawdust Pile at Mount Osborne, (264)
Science and Agriculture, (7)
Science and Government, Sir H. Dale, 391
Science in Government, Use and Misuse of, A. V. Hill, 222; (Leading Article, 236)
Science, State Bursaries in, 113
Science in War, Lord Samuel, 216
Science and World Order, Conference on, 159, 215, 222, 238, 239; (Leading Articles, 218, 236)
Scottish Area Clearing Centres, 81
Scrap, Canadian Appeal, (444)
Scrap Metal, American, (96)
Seams, Circumferential, X-raying, R. C. Woods, 22
Select Committee on National Expenditure, Eighteenth Report, 127; Nineteenth Report, (Construction and Equipment of a Factory), 132; (Leading Article, 134); Twentieth Report (Merchant Shipbuilding and Repairing), 140; (Leading Article, 134); Twenty-first Report, 127; Twenty-second Report, 170; Twenty-fourth Report, 305; (Leading Article, 316); Twenty-fifth Report, 345; (Leading Article, 375)
Seventy-five per Cent. (Production), 88
Sewage and Trade Effluents, Treatment of, A. Parker, 422
Sewage Treatment, Recorder for Dissolved Oxygen Level, (424)
Sewerage Scheme, South African, 243
Shears, Old Power, Still in Use at Norfolk Navy Yard, U.S.A., (192)
Shell Production, South African, 453
Shell Production by the Witter Process, 109

SHIPS AND SHIPBUILDING:

General:

Allied Naval and Mercantile Statistics, 159
American Cargo Ship Contracts, (32), 49, (158), (192), 193
American Cargo Vessels for Eire, (228)
American Shipbuilding, (112), 414
Anchorites Trafalgar Day Luncheon, (284)
Barcelona and Buenos Aires Shipping Service, (142)
British Shipping Losses, 33, (64), 209
Brown, John, and Co., Ltd., Annual Meeting, 1
Canadian Shipbuilding Programme, (16), 97, (444)
Cargo Vessels, Standard, J. L. Thompson and Sons, Ltd., 194
Compass and Other Aids to Navigation, F. C. Stewart, 298
Concrete Ships, R. Hammond, 35
Danish Ships in America, (48)
Deeper Loading of Ships, 113
Doxford, William, and Sons, Ltd., J. R. Gebbie's Appointment, 285
Dutch East Indies Shipbuilding, (80)
Dutch Merchant Ships in Allied Service, (158)
Gray Memorial Trust Prize, (48)
Hong Kong Shipbuilding, (304)
Icebreaker for Denmark, (208)
Icebreakers for Sweden, (126)
Indian Seagoing Lighters, (96)
Indian Shipbuilding, (48), (324)
Japan to Build Wooden Craft, (304)
Killybegs, Ireland, Lifeboat Station, (158)
Labour Conditions at British Ports, 193,
Lifeboat for Carmarthen, (64)
Lifeboat Service Statistics, R.N.L.I., (16), (364)
Lifeboat Station at Killybegs, Ireland, (158)
Lifeboats, War Service, (176)
Lighters, India Sea-going, (96)
Lloyd's Register of Shipping, American Committee, 33
Marine Engineers, Training of, D. Hastie Smith, 241
Marine Progress, Twenty-five Years of, W. A. Woodeson, 270
Mercantile Shipping Losses, 33, (64)
Merchant Shipbuilding and Repairing (Twentieth Report, Select Committee on National Expenditure), 140; (Leading Article, 134)
Mine, The Acoustic, 177
Morgan Line Cargo Ships Requisitioned by American Government, (96)
Motor Cargo Ship, Burntisland Shipbuilding Co., Ltd., 340
Naval and Mercantile Statistics, Allied, 159
Port Charges, Increase in, 65
Port Organisation, (32)
Prices, Shipbuilding and Repair, 433
Producer Gas for Ferry Boat, (80)

SHIPS AND SHIPBUILDING (*continued*):

General (*continued*):

Propulsion for Merchant Ships, Plants for, General Electric Co. of America, (424)
Richmond Shipyard, California, 58
Safety of Life at Sea, New Measures, 33
Sale of Government-built Ships, (32)
Shipbuilding Employers' Federation, 365
Shipbuilding, Wartime, in Britain and America, 241
Shipping Losses, British, 33, (64), 209
Shipyard Workers' Transport, (176)
South Africa and U.S.A. Shipping Services, (112)
South African Junction Ports Scheme, 174
South African Ship Repairs, 342
South African Shipbuilding, 148, (424)
South Portland Shipyard, Maine, 71
Standard Cargo Vessels, J. L. Thompson and Sons, Ltd., 194
Swedish Shipbuilding, 95, (126), (228)
Swedish Shipping Losses, (32), (284)
Swedish Train Ferry, New, (176)
"Tale of the Sea," J. Harrison, 199
Tanker Statistics, World's, (304)
Testing Plant for United States Navy, 133, (142)
Todd-California Shipbuilding Corporation Shpiyard at Richmond, California, 58
Todd Shipyards Corporation, Twenty-fifth Anniversary, (80)
Training of Marine Engineers, D. Hastie Smith, 241
Tramps, The Speed of, 168
Wages in the Engineering and Shipbuilding Trades, 305, 385, 405
War Losses, 33, (64), 209
Wartime Shipbuilding in Britain and America, 241
Welded Ships, Bibliography, (275)
White, J. Samuel, and Co., Ltd., J. A. Milne's Appointment, 285
Wooden Craft Building in Japan, (304)
Wrecks, Control of, (176)

Named Liners and Miscellaneous Vessels:

City of Midland, American Train Ferry Steamer, 46, 93
Georgic, Cunard White Star Liner, Damage to, (112)
Isie, South African Passenger Ship, 110
King Haakon VII, Norwegian Merchant Ship, 445
Leme, Italian Steamer, Transferred to Great Britain from U.S.A., (228)
Robin Locksley, American Robin Line Ship, (112)
Sandhamn, Swedish Motorship, (192)
Sea Otter, American Cargo Ship, 193
Staarebelt, Danish Train Ferry Vessel, (142)

Naval Matters:

BRITISH AND COLONIAL:

H.M. Aircraft Carrier "Ark Royal," Loss of, 345
H.M. Australian Cruiser "Sydney," Loss of, 385
H.M. Battleship "King George V," 122
H.M. Battleship "Prince of Wales," Loss of, 434
H.M. Cruiser "Hood," Loss of, 257
H.M. Cruiser "Repulse," Loss of, 434
H.M.S. "Captain," Historic Accidents and Disasters, III and IV, 66, 82
H.M.S. "Thunderer," Historic Accidents and Disasters, V and VI, 160, 178
H.M. Sloop "Grimsby," Loss of, (16)
Air and Sea, 40
Barges, Reinforced Concrete, 124
Convoy System, 143
Mediterranean Naval Success, (344)
Photographs, Admiralty Request, 425

FOREIGN:

Enemy Naval Losses in Two Years of War, 143
German Warships ("Scharnhorst" and "Gneisenau") Bombed, 65, 445
Italian Cruisers Sunk, 17, 425
Swedish Naval Disaster, 193
Swedish Submarine "Sjolejonet," (71)
Taylor, David W., Model Testing Basin, 133, (142)
U-Boat Surrenders to British Aircraft, 159
United States Naval Losses at Hawaii, 425
United States Navy, Ship Model Testing Plant, 133, (142)

SIXTY YEARS AGO:

Artillery Submarine, 353
Balance, Induction, President Garfield and the, 199
Bessemer, Siemens, and the War Office, 262
Canadian Pacific Railway, 106
Canonbury Accident, G.N.R., 413
"Castalia," Paddle Steamer, 221
Channel Tunnel, 455
"City of Rome," Inman Steamer, 237
Coal Dust, Explosibility of, 74
Collieries, Electric Lighting in, 36, 153
Coopers Hill College, 55
"Destroyer," Torpedo Boat, 353
Electric Lighting in Collieries, 36, 153
Electric Power, 171
Explosibility of Coal Dust, 74
Forth Bridge, 153, 341
Garfield, President, and the Induction Balance, 199
"Great Britain," Steamship, 106
"Great Eastern," 275
Institution of Mechanical Engineers at Newcastle, 89, 119
Lighthouses, 185
Lighting, Electric, Train and Mine, 153
Manufacturers, Combination of, 371
McDonald, Alexander, 313
North-Eastern Steel Company, 10
Parkyns Steam Tricycle, 28
Reynolds, Osborne, "The Limits to Speed," 295
Science and Engineering, 402
Severn Tunnel, 221

SIXTY YEARS AGO (*continued*):

Ships, Steel *versus* Iron, 119
Siemens, Bessemer, and the War Office, 262
Speed, The Limits to, Osborne Reynolds, 295
Steel *versus* Iron Ships, 119
Submarine Artillery, 353
Tay Bridge Disaster (Wind Pressure), 137
Train Lighting, Electric, 153
Tricycle, Parkyns Steam, 28
United States Navy, 441
Welland Canal, 275
Wind Pressure on Railway Structures, 137

Shortage of Engineers, 73, 106, 137, 153, 171
Shovel, Large, Electrically Operated, Tecumseh, Ind., (444)
Silver in Industry, (126)
Silver Solders, (208)
Skilled Men in the Services, Committee's Report, 143
Snow Plough Garage at Montreal, (142)
Snow Removal in Canada, (364)
Societies—*see* Associations
Soil, Cohesionless Foundation, Compaction of, by Explosives, A. K. B. Lyman, 45
Soldering Equipment, Electrode, Stanelco Products, 30
Solders, Silver, (208)
Solders, Tin-Lead, Spectrographic Analysis of, D. M. Smith, 244

SOUTH AFRICAN ENGINEERING NOTES:

Aluminium Permits, 442
Cape Town Docks, 23
Cape Town Electricity Undertaking, 341
Cape Town Post Office, 23
Cape Town's Dry Dock Campaign, 23
Cellulose Pulp for Rayon, 149
Coal Industry in the Union, 110
Coking, 174
Conveyor Belts, 442
Durban Coal-loading Appliances, 148
Durban's Beach, Restoring, 174
Exhibition War Train, 149
Farm Implement Factory, 149
Fuel Research Work, 342
Industrial Census, 110
Industrial Future, R. Armitage, 442
Iron Exports Controlled, 243
"Iscor" Coke-making Plant, 110
"Iscor" Extensions, 23
"Iscor" and Tool Steels, 442
"Isie," Passenger Vessel, 110
Johannesburg's Post-war Plans, 442
Junction Ports Scheme, 174
Mercury in the Union, 342
Mine Winders, Latest, 343
Mining Costs, Increase in, 149
Motor-cars, Effect of Sale Tax on, 149
Motor Vehicle Registrations, 23, 342
National Roads Five-Year Plan, 23
Paper-making in the Union, 23
Port Elizabeth Power Plant, 442
Port Elizabeth's Water Problem, 149, 342
Products Criticised, R. H. Harriss, 174
Railway Costs, Higher, 149
Railway Earnings, Record, 110, 442
Railway Trucks, 243
Railway Work After the War, 342
Railways in 1940–41, 23
Rand's Post-war Schemes, 442
Roads, Union National, 342
Sewerage Scheme (Maitland-Bellville), 243
Ship Repairs in the Union, 342
Shipbuilding in South Africa, 148
South African Institution of Engineers, Presidential Address, R. H. Harriss, 174
Standards, Industrial, 243
Steel Industry in Rhodesia, 110
Steel Industry Short of Scrap, 174
Table Bay Basin, 174
Table Bay Dry Dock, Proposed, 149
Table Bay Harbour, 442
Table Bay Shipping Berths, 243
Tenders, Calls for, to be Suspended, 243
Textile Industry in the Union, 442
Thabazimbi Iron Mine, 244
Trolleybus, All South African, 110
Vaal Generating Station, 342
Vereeniging, Importance of, 110
War Factories in the Union, 110

South African Sewerage Scheme, 243
South Africa's War Effort, 452
Southend Tramways, Abolition of, (228)
Spain's Pyrites, (80)
Spectrographic Analysis of Tin-Lead Solders, D. M. Smith, 244
Stabilisation, Price, and Industrial Policy, 77
Staggered Working Hours, 1
Standardisation in Germany, (264)
Standards, Industrial, South African, 243
State Bursaries in Science, 113, (228)
Steam Plant, Light-weight, R. C. McLeod, 121
Steam Turbine Manufacturing Plant, Westinghouse Electric and Manufacturing Co., (176)
Storage and Factory Premises, Control of, 65, 81, 106, 405
Structure of Alloys, W. Hume-Rothery, 441
Sugar, Power Alcohol from, (118)
Sulphate Pulp from Wattle Wood, E. A. Ritter, (382)
"Sunshine" Auto-Header Combine Harvester, H. V. McKay Massey-Harris Proprietary, Ltd., 206

SUPPLEMENTS:

THE METALLURGIST (Supplement, August 29th, October 31st, December 26th, 1941) —*see* Index, page xi

Supply, Ministry of—*see* Ministry of Supply
Surfaces, Colliding, Contact of, F. P. Bowden and D. Tabor, 380
Swedish Substitute Products, 106
Sydney University, Dr. G. G. McDonald's Appointment, 305
Synthetic Adhesives for Plywood Manufacture ("Aerolite"), Aero Research, Ltd., 282
Synthetic Lubricating Oil Production in Italy, (64)

T

TANK Board Appointments, 65, 113
Tank Building, American Army, 46
Tank Development, Britain's, 49
Tank, Large Water, Transport of, (192)
Tank Output, Record, (192), 209
Tank, "Valentine" Infantry, 28
Tar and its Products, Combustion of, W. Kirby, 122
Taxation, Industry and, C. K. Everitt, 33
Technical Ability Wasted (Association of Scientific Workers Conference), 167
Technical Education in U.S.S.R., W. R. Stoker, 330; (Leading Article, 334)
Technical Equipment, Supply of, to the Army, K. H. Tuson, 67
Technical Press, Germany's, (126)
Technicians for the Forces, (262)

TECHNICAL REPORTS:

Bitumen, Mechanical Behaviour of, W. Lethersich, 244
Brick Walls for Surface Shelters, Ministry of Home Security Bulletin C. 20, 201
Cutting Oils, Effect of, on Insulating Varnishes and Chlorinated Rubber Paint, B.E.A.I.R.A., 244
Electrical Research Association, Recent Experience with Calcium Sulphate for Glass Inserts in Flameproof Enclosures, A. P. Paton, 63
Spectrographic Analysis of Tin-Lead Solders, D. M. Smith, 244

TELEGRAPHY AND TELEPHONY:

Millionth Telephone, Chicago Museum Exhibit, (96)
Telecommunications of the Future, W. G. Radley, 300
Telephone Statistics, (96)
Trees and Telephony, U.S. Report, (142)
Wood for Telephone Lines, (32)

Temperatures, Flame Gas, The Measurement of, W. T. David, 186
Temperatures, Low, Taking Advantage of, 88
Tenders, South African, to be Suspended, 243
Tennessee Valley Authority to Include Cumberland River Basin, (246)
Tennessee Valley Development Scheme, L. Gulick, 216
Textile Industry, South African, 442
THE ENGINEER, Change of Size, 218
Thickness Gauge, Electric, General Electric Co. of America, (165)
Thomas, Richard, and Co., Ltd., Annual Meeting, 127
Timber from the Far East, (80)
Timber Preservation in Canada, (80)
Timbers, Home-grown, Handbook of, (304)
Tin, Canadian, (462)
Tin for Glassmakers, (64)
Tin Statistics, (175)
Tin Tailings for Salvage, (259), (364)
Tin from Tin Cans, 191
Tinfoil Alloy, New, (126), (192)
Tinplate Plant, (80)
Tinplate Trade, The Future of the, 294
Titania from Bauxite Waste, (112)
Town Planning and Post-war Reconstruction, 1
Tractors, Agricultural, Statistics, (48)
Trade, British Export, Lend-Lease Materials and, 177; (Leading Article, 184)
Trade Disputes Act, 159
Trades Union Congress, 143
Training in American Factories, 453
Training, Intensive, of Engineers (Hankey Committee Memorandum), 354
Training for War Work, Ministry of Labour Leaflet, 110
Transport, Acceleration of, 321
Transport, Canadian War, 209
Transport on the Eastern Front, 374
Transport and More Economical Distribution, Lord Leathers, 285
Transport in Post-war Planning, 274
Transport, Wartime, 355
Transporter for Oil, Alfa Laval Co., Ltd., 243
Trent Catchment Board, 97
Trolleybus, All South African, 110
Trolleybuses for Switzerland, (364)
Tube Defect, An Unusual, 293
Tubes, Twisted Transparent, (32)
Tungsten from the Argentine, (462)
Tungsten, Canadian, (16)
Tungsten Production in U.S.A., (80), (158)
Tungsten, Russian, (126)
Turbine Manufacturing Plant, Westinghouse Electric and Manufacturing Co., (176)

TUNNELS:

Ben Nevis Tunnel, 370
Carlton Tunnel, Colorado, Completion of, (192)
Century of Tunnelling, W. T. Halcrow (Hawksley Lecture, I. Mech. E.), 368, 389, 409
Channel Tunnel, R. Hammond, 187
Continental Divide Tunnel, U.S.A., 456
Kynshu Tunnel, Japan, (433)
New York, Sixth Avenue, Subway, (112)
Panama Canal Tunnel, (364)
St. Clair River Railway Tunnel, Ontario, (344)
Tunnelling Practice, Some Notes on, R. Hammond, 83
Tyne Tunnel, Proposed, 97

U

United States Army, Construction Work for the, R. B. Somervell, 397
Universities and Industrial Research, F. H. Boer, 239
Use and Misuse of Science in Government, A. V. Hill, 222; (Leading Article, 236)

V

"VALENTINE" Infantry Tank, 28
Vanadium Supplies, (96)
Ventilation System for Air Raid Shelters, Andamite, Ltd., 14
Vereeniging, Importance of, 110
Volunteers for Night Work, (208)

W

WAGES in the Engineering and Shipbuilding Trades, 305, 385, 405
Wages, Industrial, Increase in, 385
War Damage Payments, 97, 113
War Damaged Factories, Repairs to, 229
War Effort, Labour and the, 127, 143
War Factories, Continuous Working in, "Ericus," 146
War Factories, South African, 110
War Inventions, 68; (Leading Article, 72)
War, Mechanised, To-day's Machine Tools, Machinery and, R. E. W. Harrison, 259
War Office, Maj.-General C. J. S. King Appointed Engineer-in-Chief, 229
War and Overseas Enterprise, (112)
War Production, Central Joint Advisory Committee on, 17
War Production in Northern Ireland, 33
War, Science in, Lord Samuel, 216
War Transport and a Quick Turn Round, 385
War, Two Years of (Services' Statements), 143
War Work, Training for, Ministry of Labour Leaflet, 110
Warming of Buildings, Early Application of Engineering to the, A. F. Dufton, 4
Wartime Building Bulletin, No. 15A, (208); No. 17, Resistance of Reinforced Concrete Structures to Air Attack, (284); No. 18, Fire Stops for Timber Roofs, (324)
Wartime Contracts, Legal Significance of, 171
Wartime Transport, 355
Waste Paper and Paper Control, (404)
Waste Paper Salvage, 365
Waterproof Plywood, (96)
Wattle Wood Pulp, Plant for, E. A. Ritter, (382)

WATER SUPPLY:

Bengal Storage Reservoir, (462)
Calcutta Water Storage, (324)
Carbon for Water Purification, (112), (462)
Cement Lining for Water Mains, (112)
Drinking Water Standards, 149
Fire Fighting, Auxiliary Water Supplies for, (373)
Ground-w ter Water Supply in Indiana, 413
Karachi Water Supply, (264)
Katanning, Western Australia, Water Supply (112)
London Water Supply, (48)
Malaya, Water Supplies of, C. A. Middleton Smith, 446
Port Credit Waterworks, Ontario, (16)
Port Elizabeth's Water Supply Problem, 149, 342
Reservoirs, Domed Roofs for, (246)
Sorocold's Waterworks at Leeds, 1694, F. Williamson and W. B. Crump, 352, 372
United States Army Water Supply Battalion, (192)

WELDING:

Evaporator, Cast Iron Low-pressure, Repair of, British Oxygen Co., Ltd., 38
Manhole Covers, Welding and Cutting Plant for, (344)
Mine Track, Welded, (78)
Mobile Welding Plant, L.M.S. Railway, 225
Piles, Welded Pipe, at Ford Company's Factory, Dearborn, (192)
Rails, Welded, in U.S.A., (364)
Resistance Welding, Ministry of Supply Memorandum, (142)
Ships, Welded, (275)
Structural Work, Welded, at New York School, (96)

Welfare Work Outside the Factory, 177
Wellit Insulation, (80)
"What's Past is Prologue," C. E. Davies (Newcomen Society, Presidential Address), 400
Wheat, Power Alcohol from, (246)
Where the Money Goes, 217
Widnes Foundry and Engineering Co., Ltd., Centenary, (384)
Windmill, 1000-kW, in Vermont, 43, (384)
Wire Ropes and Cordage, Dixon Corbitt, Ltd., 401

WIRELESS:

Future of Wireless, Sir Noel Ashbridge (Presidential Address, I.E.E.), 301
Radio Location, 56

Witter Process, Shell Production by the, 109
Wool Combing Machinery in China, (462)
Working, Continuous, in War Factories, "Ericus," 146
Working Hours, Building and Civil Engineering Contracting Industries, (424)
Working Hours, Staggered, 1
Works and Buildings, Central Council for, 127
World Heat and Power Requirements, Sir H. Hartley, 217, 239
World We Hope to Live in, E. Kitson Clark, 2, (55); (Leading Article, 8); (Letters, 27, 43, 57, 73, 119, 169, 185, 201, 220, 355, 375, 396, 411, 436)

X

X-RAYING Circumferential Seams, R. C. Woods, 22

Y

YOUNGER Scientists, D. P. Riley 238

A Seven-Day Journal

A

ACOUSTIC Mine, 177
Admiralty Request for Photographs, 425
Africa, Great North Road in, Reconstruction of, 229
Agricultural Machinery, Imported, 193
Ainsworth, H. M., Director-General of Tank Design, 113
Air Offensive in October, 325
Air Record, Atlantic, 385
Air War, A Month's, 265, 325
Aircraft, American, Reassembly of, 405
Aircraft Losses, Enemy, in Two Years of War, 143
Aircraft Output, Record, 143
Aircraft Production, Regional Emergency Services Officers for, 229
Allen, Edgar, and Co., Ltd., Annual Meeting, 33
American Aircraft, Reassembly of, 405
American Cargo Ship "Sea Otter," 193
American Naval Losses at Hawaii, 425
American Visit of British Industrialist, 143
Anderson, Sir Alan, Chairman of Railway Executive, 97
Anglo-Iranian Oil Co., Ltd., Sir W. Fraser Appointed Chairman, 1
"Ark Royal," H.M. Aircraft Carrier, Loss of, 345
Armament Factories, Discipline in, 49
Atlantic Air Record, 385

B

BALANCING of Locomotive Reciprocating Parts, E. S. Cox, 425
Birmid Industries, Ltd., Annual Meeting, 445
Brest, Bombing of German Warships, 65, 445
Bricks, Economy in the Making of, 177
Britain's Growing Power (Prime Minister's Mansion House Speech), 325
Britain's Tank Development, 49
British Association Conference on Science and World Order, 159
British Association of Refrigeration, Luncheon, 285
British Coal Utilisation Research Association, Annual Meeting, 425
British Engineers' Association, Election of Officers, 247
British Export Trade and Lend-Lease Materials 177
British Industrialists to Visit America, 143
British Railways, The Future of, Lord Monkswell, 247
British Shipping Losses, 209
British Standards Institution, Full-time Chairman, 365; Chemical Division, 405
Brown, John, and Co., Ltd., Annual Meeting, 1
Building and Civil Engineering, Call-up of Men, 345; Control of, 127; Essential Work Order, 17; Payment by Results in, 365, 405

Building and Civil Engineering Labour, 325
Building, Civil, Extended Control, 445
Building Materials, Control of, 265
Bullcroft Main Colliery Explosion, 265
Bursaries, State, in Science, 113

C

CANADIAN Naval and Mercantile Shipbuilding, 97
Canadian War Transport, 209
Canal Committee, 193
Central Joint Advisory Committee on War Production, 17
Civil Engineering and Building, Call-up of Men, 345; Control of, 127; Essential Work Order, 17; Labour, 325; Payment by Results in the, 365, 405
Clearing Centres, London and Scottish Areas, 81
Coal Supplies and Distribution, 81
Collett, C. B., Retirement from G.W.R., 17
Committee of Public Accounts, Report, 113
Concentration of Industry, 33
Contractors' Plant, Care and Maintenance of, 365
Control of Building and Civil Engineering, 127
Control of Factory and Storage Premises, 65, 81, 405
Convoy System, 143
Cutting Tools, Interchange of, 113

D

DEEPER Loading of Ships in Wartime, 113
Discipline in Armament Factories, 49
Dock Labour, 113
Douglas "B. 19" Bomber, 1
Doxford, William, and Sons, Ltd., J. R. Gebbie's Appointment, 285
Dual Appointments, 113

E

ELECTRICAL Equipment, Industrial, Directorate of, 305
Emergency Powers (Defence) Regulations, 49
Employment Returns, Ministry of Labour, 33, 97, 159, 247, 325, 405
Enemy Aircraft and Naval Losses in Two Years of War, 143
Essential Work Order for Building and Civil Engineering Industries, 17

F

FACTORIES, Repairs to War Damaged, 229
Factory and Storage Premises, Control of, 65, 81, 405
Federation of British Industries, 247
Filling Factories, Labour Problems in, 49
Fraser, Sir W., Chairman, Anglo-Iranian Oil Co., Ltd., 1
Fuel Consumption, Industrial, 177
Fuel and Power Controllers, Regional, 345

G

GAS Research Board, 127
General Electric Co., Ltd., Dr. C. C. Paterson Elected Director, 445
German Aircraft Losses, 265
German Power Stations Bombed, 97
German Warships at Brest, Bombing of, 65, 445
Glen Affric Power Scheme, 17, 177
Government Control of Railways, 143
Great North Road in Africa, Reconstruction of, 229
Great Western Railway, Centenary, 1; C. B. Collett's Retirement, 17; Slough Accident Report, 305
Guy, H. L., Appointed Secretary, I. Mech. E., 285

H

"HALIFAX" Four-engined Bomber, 177
Hammer Blow in Locomotives (Inst. C.E. and I. Mech. E. Joint Meeting), 425
Handicaps to Industrial Progress (Birmid Industries, Ltd.), 445
Hawaii, U.S. Naval Losses, 425
Hawksworth, F. W., Appointed C.M.E., Great Western Railway, 17
Hire of Plant, Control of Rates of, Order, 247
Holmes Chapel Collision, L.M.S. Railway, 177
Holt, Sir Herbert, The Late, 209

I

INDIAN Industrial Development, 81
Industrial Electrical Equipment, Directorate of, 305
Industrial Expansion Risks, 33
Industrial Welfare Society, Conference, 159
Industry, Concentration of, 33
Industry and Taxation, C. K. Everitt, 33
Institution of Electrical Engineers and Post-war Planning (Committee), 265
Institution of Mechanical Engineers, Dr. H. L. Guy Appointed Secretary, 285
Ironfoundry Associations, Council of, 229
Italian Cruisers Sunk, 17, 425

J

JAPAN Enters the War, 405

K

"KING Haakon VII," Merchant Ship for Norway, 445
King, Major-General C. J. S., Appointed Engineer-in-Chief, War Office, 229

L

LABOUR Conditions at British Ports, 193
Labour Problems in Filling Factories, 49
Labour and Production (25th Report, Select Committee on National Expenditure), 345; (Leading Article, 375)
Labour and the War Effort, G. Gibson, 143
Labour and the War Effort (Select Committee on National Expenditure), 127
Lend-Lease Materials and British Export Trade, 177
Levy, Louis E., Medal, Awarded to J. M. Lessels and C. W. MacGregor, 1
Lloyd's Register of Shipping, American Committee, 33
Location of Industry (Restriction) Order, 1941, 65
Locomotive Reciprocating Parts, Balancing of, E. S. Cox, 425
Locomotives, Hammer Blow in (Inst. C.E. and I. Mech. E. Joint Meeting), 425
London Area Clearing Centre, 81
London and Brighton Railway, Centenary, 193
L.M.S. Railway, Holmes Chapel Collision, 177
L.N.E. Railway Electric Locomotive Tests, 229; W. Y. Sandeman's Appointment, 97
London Transport's Winter Plans, 209

M

MACHINE Tool Prices, 113
Machine Tools, Control of, 345, 365
Machine Tools and the War Effort, 65
Man Power and Production, 285
McDonald, G. G., Sydney University Appointment, 305
Mercantile Shipping Losses, 33; (Correction, 64)
Merchant Shipbuilding in America, 49
Metropolitan-Vickers Electrical Co., Ltd., Retirement of J. S. Peck, 49
Mine, The Acoustic, 177
Ministry of Supply, Directorate of Industrial Electrical Equipment, 305
Mitchell, Brig.-General C. H., The Late, 143
Mobile Squads, National Industrial, 159
Motor Vehicle Repairs and Spare Parts, 193, 345

N

NATIONAL Expenditure, Select Committee on, Labour Problems in Filling Factories (17th Report), 49; 18th and 21st Reports, 127; 24th Report, 305; 25th Report, 345; (Leading Article, 375)
National Industrial Mobile Squads, 159
Naval Losses, Enemy, in Two Years of War, 143
Naval and Mercantile Shipping Statistics, 159
Newcomen Society, Coming-of-Age, 345
Northern Ireland, War Production in, 33
Norton, R. J., Retirement from Petters, Ltd., 209
Norway, Merchant Ship for ("King Haakon VII"), 445

P

PATERSON, Dr. C. C., Director of G.E.C., Ltd., 445
Payment by Results in the Building and Civil Engineering Industries, 365, 405
Peck, J. S., Retirement from Metropolitan-Vickers Electrical Co., Ltd., 49
Petters, Ltd., R. J. Norton's Retirement, 209
Photographs, Admiralty Request for, 425
Pick, Frank, The Late, 325
Plastics, British, in Time of War, 385
Port Administration (24th Report, Select Committee on National Expenditure), 305
Port Charges, Increase in, 65
Ports, British, Labour Conditions at, 193
Producer Gas, Sources of Fuel for, Committee on, 345
Production, Organisation of, 49
Public Accounts, Committee of, Report, 113

R

RAILWAY Travel, Winter, 81
Railway Wagons and Engines for Russia, 325
Railways, British, The Future of, Lord Monkswell, 247
Railways, Government Control of, 143
Reconstruction, Post-war, Town Planning and, 1
Refrigeration, British Association of, Luncheon, 285
Regional Fuel and Power Controllers, 345
Repairs to War Damaged Factories, 229
Reservation, Individual, to Supersede Group Reservation, 265
Road Haulage Scheme, Government, 265, 305
Royal Engineers Trade Training Exhibition, 247
Russia, Technical Aid for, 65

S

SAFETY of Life at Sea, 33
Salvage Appeal, Lord Portal, 445
Sandeman, W. Y., Assistant Engineer, L.N.E.R. Southern Area, 97
Science, State Bursaries in, 113
Science and the World Order (Brit. Assoc. Conference), 159
Scottish Area Clearing Centres, 81
"Sea Otter," American Cargo Ship, 193
Select Committee on National Expenditure, 18th and 21st Reports, 127; 24th Report, 305; 25th Report, 345; (Leading Article, 375)
Shipbuilding in America, 49
Shipbuilding Employers' Federation, Annual Meeting, 365
Shipbuilding, Naval and Mercantile, in Canada, 97
Shipping Losses, British, 209
Shipping Statistics, Allied Naval and Mercantile, 159
Ships, Deeper Loading of, in Wartime, 113
Skilled Men in the Services, 143
Slough Accident Report, G.W.R., 305
Society of British Aircraft Constructors, Elections, 365
Southern Railway Locomotive "Union Castle," 17; Wagons and Engines for Russia, 325
Staggered Working Hours, 1
State Bursaries in Science, 113
Steel Works, Women in, 425
Stonehaven, Lord, The Late, 127
Swedish Naval Disaster, 193
"Sydney," H.M. Australian Cruiser, Loss of, 385

T

TANK Board Appointments, 65, 113
Tank Development, Britain's, 49
Tanks and Armoured Vehicles, Record Output, 209
Taxation, Industry and, C. K. Everitt, 33
Thomas, Richard, and Co., Ltd., Annual Meeting, 127
Tools, Cutting, Interchange of, 113
Town Planning and Post-war Reconstruction, 1
Trade Disputes Act, 159
Trade Training Exhibition, Royal Engineers, 247
Trades Union Congress, 143
Transport and More Economical Distribution, Lord Leathers, 285
Transport, War, and a Quick Turn Round, 385
Trent Catchment Board, 97
Tyne Tunnel, Proposed, 97

U

U-BOAT Surrenders to British Aircraft, 159

W

WAGES in the Engineering and Shipbuilding Trades, 305, 385, 425
Wages in the Engineering Trades, 405
Wages, Industrial, Increase in, 385
War Damage Payments, 97, 113
War Office, Major-General C. J. S. King Appointed Engineer-in-Chief, 229
War Production, Central Joint Advisory Committee on, 17
War Production in Northern Ireland, 33
War Production, Progress in, 65
War Transport and a Quick Turn Round, J. J. Llewellin, 385
War, Two Years of, 143
Waste Paper Salvage, 365
Welfare Work Outside the Factory, 177
Welsh Highland Railway, 81
White, J. Samuel, and Co., Ltd., J. A. Milne's Appointment, 285
Winter Railway Travel, 81
Women in Steel Works, 425
Works and Buildings, Central Council for, 127

The Metallurgist

Eight-Page Supplement, August, October, and December, 1941

AUGUST ISSUE (29.8.41)

Elastic Properties of Cold-drawn Steel Wire
Fissures in Railroad Rails
Manganese, Use of, in Alloy Steels
Martensite in Steel Wire, The Formation of
Ultrasonics

OCTOBER ISSUE (31.10.41)

Freezing Point of Iron
G.E.C. Heavy Alloy
Hydrogen, Effect of, on the Ductility of Steel
Vanadium, Influence of, on the Scaling of Steel
X-Ray Analysis in Industry
BOOKS AND PUBLICATIONS:
Metallurgical Practice, Outline of, C. R. Hayward

DECEMBER ISSUE (26.12.41)

Beryllium as a Light Metal Component
Brittleness in High-chromium Steels
High-speed Testing
Hydrogen as an Alloying Element in Steel and Cast Iron
Mining Haulage Gear
Tellurium-Lead Alloys, Hardening of

PRINTED IN GREAT BRITAIN FOR THE PROPRIETORS BY GEORGE REVEIRS, LIMITED, 10 AND 12, ROSEBERY AVENUE, LONDON, E.C.1, AND PUBLISHED BY ARTHUR RONALD VAUGHAN AT THE ENGINEER OFFICE, 28, ESSEX STREET, STRAND, IN THE PARISH OF ST. CLEMENT DANES, IN THE COUNTY OF MIDDLESEX.—JANUARY, 1942